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Preclinical evaluation of endoscopic placement of steroid-eluting metal stent in an in vivo porcine benign biliary stricture model

Prof. Dong Ki Lee¹, Prof. Sung Ill Jang¹, Prof. Jae Hee Cho¹, Dr. Min Young Do¹, MS Su Yeon Lee¹

¹*Department Of Internal Medicine, Gangnam Severance Hospital, Yonsei University College Of Medicine, , South Korea*

Background and Purpose

Treatment of benign biliary stricture (BBS) using a fully covered self-expandable metal stent (FCSEMS) has a high-resolution rate, but recurrence may occur. There is a need for a new treatment for refractory BBS that cannot be resolved by conventional endoscopic methods. The purpose of this study was to investigate the safety and efficacy in animal experiments to confirm the clinical applicability of FCSEMS eluting steroids with anti-fibrotic and anti-inflammatory effects.

Methods

To optimize drug release, an in vitro drug release test was performed with a stent eluting triamcinolone of various concentrations on two types of the membrane by ultrasonic spray method. After four weeks of endobiliary radiofrequency ablation induced BBS in 12 minipigs, steroid eluting FCSEMSs were endoscopically inserted. The histology of the porcine bile duct, various laboratory findings were analyzed. Results: In the in vitro release test, the stent eluting 15 mg of triamcinolone to the hydrophilic membrane was the most optimal. In the control group (0mg triamcinolone), steroid 1 X group (15mg triamcinolone), and steroid 2 X group (30mg triamcinolone), the epithelium of the pig biliary duct by steroid-eluting FCSEMS did not cause transmural necrosis and perforation. In each group, the fibrous wall thickening showed a tendency to decrease macroscopically and microscopically in a dose-dependent manner (mean thickening [control vs. steroid 2X group]: 773.1 vs 468.5 μm , $p=0.016$). And it also decreased in a dose-dependent manner by period. (mean thickening[3day vs 4weeks in steroid 2X group]: 907.9 vs 468.5 μm , $p=0.036$). The laboratory results showed improvement after stent insertion, and there was no difference between groups. Conclusions: Steroid-eluting stent showed potential as a new and safe treatment modality to reduce fibrotic tissue in experimental BBS in porcine. A clinical study is needed to confirm the efficacy of the stent in human refractory BBS.

Gallstone dissolution effects of combination therapy with n-3 polyunsaturated fatty acids and ursodeoxycholic acid in patients with gallstones.

Prof. Dong Ki Lee¹, Prof. Sung Ill Jang¹, Prof. Jae Hee Cho¹, Dr. Min Young Do¹, MS Su Yeon Lee¹, Prof. Hye Sun Lee²

¹Department Of Internal Medicine, Gangnam Severance Hospital, Yonsei University College Of Medicine, Seoul, South Korea, ²Biostatistics Collaboration Unit, Yonsei University College of Medicine, Seoul, South Korea

Background and Purpose

Ursodeoxycholic acid (UDCA) is the only agent capable of dissolving gallstones. Epidemiological and animal studies have suggested the potential therapeutic effects of omega-3 polyunsaturated fatty acids (PUFA) against cholesterol gallstones. We assessed the PUFA adding to UDCA in patients with cholesterol gallstones.

Methods

We performed a randomized, prospective, preliminary clinical trial to determine the efficacy of combination therapy with PUFA and UDCA (combination group) compared with monotherapy using UDCA (mono group). The inclusion criteria were GB stone diameter ≤ 15 mm, radiolucency on plain X-ray, and asymptomatic/mildly symptomatic patients. The dissolution rate, response rate, and adverse events were evaluated.

Results

A total of 59 patients were enrolled, and 45 patients completed the treatment. The dissolution rate was statistically higher in the combination group than the mono group (45.7% vs. 9.9 %, $p=0.028$). The response rate was 90.5% (19/21) in the combination group and 45.7% (10/24) in the mono group. The dissolution and response rate were higher in sludge type than stone type in both groups. An adverse event requiring cholecystectomy occurred in one patient in the combination group. The rate of other adverse events unrelated to medication was 8.9% and resolved after conservative management.

Conclusions

Combination treatment with PUFA and UDCA dissolves cholesterol gallstones more effectively than UDCA monotherapy without significant complications. Further prospective, large-scale studies of the therapeutic effects in patients with cholesterol gallstones with the combination of PUFA and UDCA are warranted.

Diagnostic yield of bile culture in a patient undergoing Endoscopic retrograde cholangiopancreatography (ERCP)- a prospective study

Dr. Anirban Jabbar¹

¹wcog, dubai, UAE, ²fortis hospital, kolkata, india

Background And Purpose

cholangitis is common in patients with gall stone disease. It presents with triad of abdominal pain, fever and jaundice. However, we often do not know the causative organism and empirical antibiotics treatment is given.

Aims

Aim of this study was to investigate sensitivity and specificity of bile culture which aspirate during ERCP and to identify the causative microorganism in patients with cholangitis.

Methodology

This is a prospective study on 50 patients - of them 29 were male and 21 were female aged between 18 to 88 years old who had been diagnosed with cholangitis and underwent ERCP between years 2020 and 2021. All patients had gall stone/stones with CBD stones and had features of cholangitis pain, fever and jaundice. 10 ml bile sample was collected during ERCP and sent for culture and sensitivity in aerobic and anaerobic culture method. Standard equipment, sedation with appropriate doses of midazolam and propofol were given under supervised anesthetic care during ERCP.

Results And Discussions

In our study 41 (82%) cases had positive bile culture with microorganisms and in 09 cases bile culture was negative.

The different microorganisms were :

1.Escherichia coli	->	21 cases (52.21%)
2.Klebsiella pneumoniae	->	16 cases (39.02%)
3.Enterococcus	->	01 case (2.4%)
4.Providentia stuartii	->	01 case (2.4%)
5.Pseudomonas aeruginosa	->	01 case (2.4%)

Conclusions

Our study confirms that bile culture in a patient with cholangitis has high diagnostic yield. Data shows Escherichia coli predominates the microbiological spectrum of cholangitis followed by klebsiella pneumoniae. We suggest bile should be send for bile culture routinely during ERCP for cholangitis patients so that appropriate antibiotics can be used. Further study require.

Deep learning and Cholangioscopy: Automatic detection of tumor vessels in indeterminate biliary strictures.

Dr. Miguel Mascarenhas^{1,2}, Dr. Tiago Ribeiro¹, Dr. João Afonso¹, Dr. Pedro Cardoso¹, Professor João Ferreira³, Dr. Filipe Vilas Boas^{1,2}, Dr. Pedro Pereira^{1,2}, Professor Dr. Guilheme Macedo^{1,2}

¹Centro Hospitalar São João, Porto, Portugal, ²Faculty of Medicine of the University of Porto, Porto, Portugal, ³Faculty of Engineering of the University of Porto, Porto, Portugal

Background and Purpose

Indeterminate biliary strictures pose a significant clinical challenge. Dilated, irregular, and tortuous vessels, often described as tumor vessels, are frequently reported in biliary strictures with high malignancy potential during digital single-operator cholangioscopy (D-SOC). In recent years, the development of artificial intelligence (AI) algorithms for application to endoscopic practice has been intensely studied. Our group aimed to develop an AI algorithm for the automatic detection of tumor vessels (TVs) in D-SOC images.

Patients and methods

A convolutional neural network (CNN) was developed. A total of 22125 images from 94 patients who underwent D-SOC (Spyglass, Boston Scientific, Marlborough, Massachusetts, United States) were included. Each frame was evaluated for the presence of TVs. The performance of the CNN was measured by calculating the area under the curve (AUC), sensitivity, specificity, and positive and negative predictive values.

Results and Discussion

The sensitivity, specificity, positive predictive value, and negative predictive value were 98.1%, 97.6%, 94.9%, and 99.1%, respectively. The AUC was 1.00.

Conclusions

Our CNN was able to detect TVs with high accuracy. The development of AI algorithms may enhance the detection of macroscopic characteristics associated with high probability of biliary malignancy, thus optimizing the diagnostic workup of patients with indeterminate biliary strictures

Factors Associated with Recurrent Choledocholithiasis Following Endoscopic Bile Duct Clearance

Dr. Shireen Ahmed¹, Dr. Sarker Md. Sajjad¹, Dr. Arif Mahmud¹, Dr. Indrajit Kumar Datta¹, Dr. Abdullah Al Mamoon¹, Dr. Tareq Mahmud Bhuiyan¹, Dr. AHM Rowshon¹

¹*BirDEM General Hospital, Dhaka, Bangladesh*

Choledocholithiasis occurs in 15% to 20% of patients with cholelithiasis. Endoscopic retrograde cholangiopancreatography (ERCP) is accepted for removal of bile duct stones. Recurrence of choledocholithiasis is a late complication of it.

The goal of this study was to identify factors responsible for recurrence of choledocholithiasis who underwent ERCP and its recurrence rate.

Materials & Methods

Study was carried out in all cases of choledocholithiasis, underwent ERCP and sphincterotomy admitted in department of gastroenterology, BIRDEM Hospital from October, 2018 to June, 2020. Recurrence cases of choledocholithiasis during the study period were recorded. Clinical, ERCP related features (bile duct anatomy, stone character) and laboratory-data were analyzed using standard techniques.

Results

Total 92 patients were included, but 84 patient came for follow up. 23 out of 84 patients (27.4%) presented with recurrent choledocholithiasis after 10.52 ± 2.54 months. Factors associated with recurrence were age (60.30 ± 12.35 vs 52.44 ± 12.69), size of the largest CBD stone found at first presentation (19.67 ± 1.93 mm vs 9.91 ± 1.99 mm), diameter of the CBD during the first examination (22.15 ± 2.77 mm vs 11.70 ± 1.29 mm), angulation at distal CBD (121.78 ± 3.23 vs 147.02 ± 10.39), use of mechanical lithotripsy (OR=10.029, 95%CI: 3.207-31.356) and multiple ERCP sessions (OR=3.031, 95%CI: 1.240-7.409). Periapillary diverticula showed a trend towards significance OR=32.571, 95%CI: 8.462-125.369). Jaundice (13.11 ± 4.70 vs 3.69 ± 2.93), prior choledocholithiasis (OR=15.545, 95%CI: 5.225-57.197), more raised transaminases, alkaline phosphatase (777.22 ± 139.38 vs 220.57 ± 115.82), gamma-glutamyltransferase (518.52 ± 66.35 vs 152.08 ± 72.83) and total WBC count (19699 ± 2503 vs 9246 ± 2746) showed significant differences among two groups. On the contrary, duration of hospital stay, number of stones, impacted stone and gallbladder in situ did not influence recurrence.

Conclusion

Rate of recurrence of choledocholithiasis was 27.4%. It was associated with increasing age, jaundice, prior CBD stone, multiple ERCP sessions, cholangitis, anatomical parameters (diameter of CBD, acute distal CBD angulation, juxtaapillary diverticula) and stone character (stone size and use of mechanical lithotripter) at first presentation.

Ki67 expression in pancreatic adenocarcinoma correlated with clinical and histological features of the tumor: single center experience.

Dr. Emilija Nikolovska Trpchevska¹, Dr. Rozalinda Popova Jovanovska¹, Dr. Meri Trajkovska¹, Dr. Dafina Nikolova¹, Aleksandar Eftimov², Dr. Gordana Petrushevska², Dr. Mia Rusomanova¹

¹University Clinic Of Gastroenterogepatology, Skopje, N. Macedonia, Skopje, Macedonia, ²Institute of Pathology, Skopje, North Macedonia

Background and purpose

Ki-67 protein is a cellular immunohistochemical marker of proliferation which reflects tumor growth rates and correlates with the initiation, progression, metastasis, and prognosis of many tumors. Ki67 protein expression is used as a marker of tumor aggression. The aim of this study was to evaluate the association of this marker with clinical and histopathological features of pancreatic adenocarcinoma.

Methods

Our study includes 62 patients, 40 males and 22 females, with histopathological proved adenocarcinoma of pancreas after surgical resection. Every patient had different tumor size, stage and grade of tumor. Immunohistochemical staining was performed on tumor tissue using a complex avidin-biotin ventilation technique. The immunohistochemical signal of Ki-67 staining is seen as nuclear brown staining. The signal expression of Ki-67 was categorized into four degrees: 0, negative; 1, poor expression, $\leq 10\%$; 2, moderate expression, $10\% - 50\%$; and 3, strongly expressed expression $\geq 50\%$.

Results

The results of the study showed that the sex of patients with pancreatic cancer had a significant effect on Ki-67 expression ($p = 0.025$). Stronger expression of this cell proliferation marker was observed in male patients. The strongest expression of Ki 67 was registered in 6 (85.5%) tumors < 2 cm. Patients with lymph nodes invasion in most of the cases had moderate expression of Ki-67 (11 to 50%). Ki-67 expression $> 50\%$ was detected in G3 tumors slightly more than G2 tumors. Stage III tumor was associated with Ki-67 proliferative index $> 50\%$. Strong expression of Ki 67 was more found in patients with vascular invasion.

Conclusion

Ki-67 expression in our study correspond with male patient, small tumor size, third grade and poor differentiation of tumor. Also, lymph nodes involvement and vascular invasion are in correlation with higher Ki-67 expression in tumor tissue.

Comparison of prognostic value of inflammatory markers of interleukin-6, procalcitonin and C-reactive protein in the early stage of acute pancreatitis

Dr. In Rae Cho¹, Dr. Min Young Do², Dr. So Young Han², Dr. Sung Ill Jang², Dr. Dong Ki Lee², Dr. Jae Hee Cho²

¹Seoul National University College of Medicine, Seoul, South Korea, ²Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, South Korea

Background

Acute pancreatitis (AP) is an inflammatory disease of the pancreas caused by various causes. Although severe or necrotizing pancreatitis can be developed in some patients, most of AP patients show mild AP that requires only short-term hospitalization with conservative management. Early identification of patients who will be confined to mild AP can help to establish treatment plans and allocate medical resources. Thus, we aimed to investigate the predictive value of inflammatory markers including interleukin-6 (IL-6), procalcitonin and C-reactive protein (CRP) in discrimination of mild AP from moderate and severe AP.

Method

Patients who underwent simultaneously three inflammatory marker tests of IL-6, procalcitonin and CRP were retrospectively investigated. All three markers were obtained on admission, and CRP was additionally measured 24 hours after admission (CRP2). Severity of AP was defined by the revised Atlanta Classification. The predictive value of inflammatory markers and scoring systems were investigated by the receiver operating characteristic (ROC) curve analysis and logistic regression analysis

Result

Out of 103 patients analysed, 42 (40.8%) patients were diagnosed as mild AP and 53 (51.5%) and 8 (7.8%) patients were diagnosed as moderately-severe and severe AP, respectively. The AUROCs (95% CI) of IL-6, CRP, procalcitonin, and CRP2 were 0.755 (0.656-0.854), 0.652 (0.540-0.765), 0.674 (0.566-0.782), and 0.787 (0.696-0.878), respectively. The AUROC of BISAP, APACHE-II, and Ranson score were 0.498 (0.384-0.612), 0.609 (0.500-0.719), and 0.656 (0.551-0.761), respectively. Diagnostic sensitivity, specificity, and accuracy to predict mild AP were, respectively, 83.3%, 62.3%, and 70.9% in IL-6 <50pg/ml, 78.6%, 63.9%, and 69.9% in CRP24 <50mg/L, and 64.3%, 49.2%, 55.3% in APACHE-II score <8.

Conclusions

Assessment of IL-6 at admission and CRP 24 hours after admission showed acceptable performance in discrimination of mild AP from more severe cases. They are more useful than procalcitonin and CRP at admission.

Concordance between scanner-MRI-endoscopy and ERCP in the diagnosis of lithiasis of the common bile duct.

Dr. Omar Bahlaoui¹, Dr. Lamia Kabbage¹, Dr. Crescence Fabove Tefoung¹, Dr. Innocenti Dadamessi¹

¹*Hospital Center Saint-Quentin, Saint-Quentin, France*

The lithiasis of the main bile duct is a frequent pathology which occurs mainly by migration of a gallstone from a vesicular lithiasis. Once diagnosed, it must be treated to avoid the occurrence of severe complications (biliary pancreatitis, cholangitis) involving the vital prognosis. The objective of our work is to study the concordance between morphological examinations (CT and MRI), echo endoscopy and ERCP in lithiasic biliary pathology.

It's a retrospective and descriptive study, from a period of 2 years from January 1, 2019 to December 31, 2020, in the hepato-gastroenterology department of the Saint-Quentin hospital center. During this period, 432 ERCP were done. 188 were performed for lithiasis of the common bile duct (43.5%). We included in our study all patients who had an ERCP for lithiasis of the common bile duct whose diagnosis was evoked on radiological criteria (scanner and MRI), echoendoscopic and confirmed by the extraction of gallstones at ERCP. We excluded all patients with cholestasis or cholangitis not related to a lithiasic obstacle.

The average age of our patients was 70.8 years (extremes from 16 to 96 years), with 106 women and 82 men (sex ratio F/M 1.3).

Clinical signs were: jaundice in 83 patients (44.14% of cases), hepatic colic in 171 patients (91%), cholangitis in 70 patients (37.2%) and acute pancreatitis in 27 patients (14.4%). Abdominal CT scan was performed in 156 patients among whom lithiasis of the common bile duct was objectified in 97 patients. Lithiasis was confirmed by ERCP in 93 of these patients, a concordance of 93.8%. Bili-MRI was performed in 23 patients among whom lithiasis was objectified in 17 patients. Lithiasis was confirmed by ERCP in 16 patients, a concordance of 94.1%. Echoendoscopy was performed in 82 patients, among whom lithiasis was found in 64 patients. Lithiasis was confirmed in 63 patients, a concordance of 98.4%.

Our study shows a good performance of scanner, Bili MRI and especially echoendoscopy in the diagnosis of lithiasis of the common bile duct. ERCP should only be performed for therapeutic purposes due to its invasive nature.

Pancreatic cancer: epidemiology, clinic, and progress of the disease at the time of diagnosis in a Moroccan university hospital center

Dr. Omar Bahlaoui¹, Dr. Mohamed Tahiri¹, Dr. Fadwa Toumi¹, Dr. FZ Elrhaoussi¹, Dr. Fouad Haddad¹, Dr. Wafaa Hliwa¹, Dr. Ahmed Bellebah¹, Dr. Wafaa Badre¹, Dr. N Tawfiq², Dr. M Bourhafour², Dr. T Chekrine², Dr. N Benchakroune², Dr. Z Bouchbika², Dr. H Jouhadi², Dr. S Sahraoui², Dr. A Benider², Dr. F Bensardi³, Dr. D Erguibi³, Dr. K Elhattabi³, Dr. F Essodegui⁴, Dr. Elkebir⁵, Dr. M Karkouri⁵

¹ Gastroenterology Department of the University Hospital Center Ibn Rochd, Casablanca, Morocco, ²Department of Oncology and Radiotherapy of the University Hospital Center Ibn Rochd, Casablanca, Morocco, ³Visceral Surgery Department of the University Hospital Center Ibn Rochd, Casablanca, Morocco, ⁴Central Radiology Department of the University Hospital Center Ibn Rochd, Casablanca, Morocco, ⁵Department of Anatomo-Pathology of the University Hospital Center Ibn Rochd, Casablanca, Morocco

In Morocco, pancreatic cancer ranks third among digestive cancers in Rabat, while in Casablanca, it ranks fourth. Often diagnosed late, its prognosis remains poor.

The objective of our study is to describe the epidemiological, clinical characteristics, and the progress of the disease at the time of diagnosis.

It's a retrospective, descriptive study of 140 patients followed for pancreatic cancer in the gastroenterology, oncology, radiotherapy and the visceral surgery departments in the university hospital center Ibn Rochd of Casablanca, from May 2020 to November 2021.

The average age of patients was 61.7 years (extremes from 34 to 90 years), divided into 91 men (65%) and 49 women (35%). Among them 22.1% were diabetic, 15.1% hypertensive, 7.2% were cholecystectomized, 21.6% were chronic smokers, 6.5% were chronic alcohol consumers, 5.8% had a family history of neoplasia.

The average time between the first symptom and the consultation was 4.25 months (differences from 2 weeks to 24 months).

The reason for consultation was: 34.1% for jaundice, 11.6% for pain in the right hypochondrium, 79.1% for epigastric pain, 55.4% for weight loss.

Clinically, 31.1% had PS ≥ 2 , 68.9% PS < 2 . 34.1% had jaundice, 39.6% had epigastric tenderness and the gallbladder was palpable in 2.2%.

total bilirubin was elevated in 67.3% as well as GGT and PAL in, respectively, 66.7% and 67.4%. AST was elevated in 62.2% and ALT in 54.1%.

scanner had shown a process in the head of the pancreas in 51.1%, in the body in 17.5%, in the tail in 12.4%, in the isthmus in 7.3%, between tail and body in 11.7%. MRI was performed in 30.7%.

According to the TNM classification: 5.2% were T1, 22.4% T2, 42.2% T3, 30.4% T4. 60.3% were N0, 13.2% N1 and 26.5% N2. 50.4% were M0, 48.9% M1. Dilation of the CBD was found in 43.1%.

Hepatic metastases were found in 38.1%, pulmonary in 14.3%, peritoneal in 9.3%.

Histological confirmation was obtained in 15.7%.

With the SNFGE classification and the stage of vascular invasion: 25.9% of cases the pancreatic cancer was resectable, 13.7% borderline, 11.5% locally advanced, 48.9% were metastatic at the time of diagnosis.

Due to its high mortality, pancreatic cancer has become an important public health problem. Most often patients consult at a late stage in the evolution of the disease, and most of them are already metastatic and non-operable at the time of diagnosis.

Safety And Efficacy Of Short-Time Percutaneous Cholecystostomy: A Retrospective Observational Study

Prof. Liana Cambj Sapunar¹, MD Dorotea Božić², MD Marin Šimunić², Prof. Damir Sapunar³, MD Žarko Ardalić², **Prof. Miroslav Simunic²**

¹University Hospital Split, Department of Radiology, Split, Croatia, ²University Hospital Split, Department of Internal Medicine, Split, Croatia, ³University of Split, School of Medicine, Split, Croatia

Purpose

Percutaneous cholecystostomy (PC) has shifted the paradigm in treatment of acute cholecystitis (AC), demonstrating high levels of success and low complication rates, however, there are still issues regarding the procedure duration. The purpose of this study was to assess the safety and efficacy of early PC removal. **Materials and Methods:** In this retrospective observational study, 91 consecutive high-risk patients underwent PC for AC during the period of 2015-2019. The puncture of gallbladder under CT guidance via transhepatic access route was performed. Drain removal was performed after symptoms of acute illness resolved. The study endpoints were influence of age, comorbidities, laboratory parameters, delay in drainage initiation and drainage duration on the patient outcome; as well as assessment of complication development.

Results

74 patients (81.3%) met the criteria for grade 2 cholecystitis according to TG, and grade 3 criteria were met by 8 patients (8.8%). The average timing for drainage initiation was 6.24 ± 4.6 days, and the average drainage duration was 10.1 ± 4.8 days. Among 90 patients with registered outcome, 75 (83.33%) of them were discharged after the clinical improvement, 6 (6.67%) patients underwent urgent cholecystectomy with favorable outcomes, and 9 (10%) patients had lethal outcome, most frequently due to comorbidities. In only 6 cases mild complications were detected. The mortality in grade 2 cholecystitis group was 5.5% (4/74 patients) and as high as 62.5% (5/8) in grade 3 patients. All lethal outcomes occurred in patients with age over 75 years. We have also demonstrated a statistically significant effect of pericholecystitis ($p=0.004$), cholecystitis grade ($p<0.01$) and the change of therapeutic regimen ($p=0.01$) on patient outcome.

Conclusion

PC is a safe and effective procedure in high-risk patients with acute cholecystitis even if the drainage catheter is removed within 15 days in patients in whom the symptoms of acute illness resolved.

Biliary sepsis (Cholangitis) Unusual presentation of very common Enteric infection (Extensive drug Resistant) Salmonella typhi in young patient with choledocholithiasis/Biliary stricture.

Dr. Muhammad Aasim Khan¹, Assistant Professor Om Parkash

¹*Gajju Khan Medical College Swabi ,kpk Pakistan, Swabi, Pakistan*

since its discovery of XDR Salmonella Typhi in 2016 in Karachi, more than 11000 cases have been reported. This rapid spread has been attributed to excessive use of oral antibiotics. Majority of the confirmed cases of XDR Salmonella are based on culture of sample from blood and stool however, XDR Salmonella from biliary secretions has not been previously reported in literature. We report our experience with a 29 year old female patient who presented with non-specific right upper quadrant pain and fever. Imaging revealed choledocholithiasis with distal CBD stricture. ERCP failed initially because of distally impacted stone hence PTC was done with intention of rendezvous with ERCP later stage. Initial drainage Via PTC revealed frank purulent Bile coming out which grew XDR salmonella.

STRUCTURAL AND FUNCTIONAL ASPECTS IN PATIENTS WITH FATTY PANCREATIC DISEASE

Mrs. Elena Gologan¹, Mr. Andrei Nicolae Gologan¹

¹University of Medicine and Pharmacy "Grigore T Popa", Iasi, Romania

Introduction

Fatty pancreatic disease, often associated with fatty liver disease, is an entity with different etiologies, most commonly alcoholic or metabolic, which can associate functional abnormalities.

Material and method

We retrospectively analyzed a group of 120 patients diagnosed in an outpatient gastroenterology service during a year (2021), on standard ultrasound criteria, with fatty pancreas. We analyzed correlations with fatty liver disease in the same patients as well as pancreatic dysfunctions: endocrine (fecal pancreatic elastase) and endocrine (glycaemia and HOMA index).

Results and discussions

We analyzed 120 patients (68 men and 52 women), with a mean age of 54.4 years, with ultrasound appearance of fatty pancreas.

Etiology was alcoholic in 54 cases and non-alcoholic in 66 cases.

Ultrasound appearance of the pancreas was hyperechoic in all cases; homogenous in 74 cases (61,67%) and inhomogenous in 46 cases (38,33%).

Blood glucose levels were normal in 38 patients (31.66%), modified basal blood glucose in 59 patients (49.17%) and 23 were diabetic (19.17%) of which 16 with insulin requirement.

The HOMA index revealed insulin resistance in 26 cases (21.7%), probable in 38 cases, possible in 21 cases and absent in 35 cases (29.17%).

Fecal pancreatic elastase had moderately low values (100-200 g/ g) in 57 patients (47.5%) and significantly low (below 100 g/ g) in 48 patients (40%), only 15 patients with normal values. However, of the 105 with changes in exocrine function, only 21 were clinically symptomatic (20%).

An ultrasound appearance of fatty liver was found in 102 patients with a median F2 fibrosis.

Conclusion

In the patients group with fatty pancreas we found abnormalities of exocrine function in 87.5%, of which 80% were asymptomatic, abnormalities of endocrine function in 68.3% of cases and the association with fatty liver was in 85% of cases.

Laparoscopic Concomitant Corpo-Caudal Pancreatectomy, Cholecystectomy And Splenectomy in The Treatment Of Frantz Tumor: A Case Report

Dr. Luis Savio¹, Dr. Gabriela Mendia¹, Dr. Rene Abuchaim¹, Dr. Mariana Hackel¹, Dr. Gilberto Peron¹

¹*Beneficência Portuguesa de São Paulo, São Paulo, Brazil*

Background And Purpose

Solid pseudopapillary epithelial neoplasms of the pancreas (SPEN) are rare and affects women in the third decade of life. Surgery remains the gold standard treatment option with increased disease-free survival of 95.6% and recurrence in only 4.4%. We aim to report a feasible concomitant laparoscopic pancreatectomy, cholecystectomy, and splenectomy in the treatment of a Frantz tumor.

Methods

A 34-year-old woman was referred from an outside institution with a six-month history of epigastric pain associated with steatorrhea. Abdominal MRI revealed a 3 cm corpo-caudal mass. Endoscopy ultrasound imaging showed biliary microlithiasis and pancreatic biopsy pathology detected a SPEN. Laboratory tumor markers were in the normal range. Laparoscopic trocars were placed in a triangulated manner with a 10 mm trocar in the umbilicus, 12 mm trocar in the right and in left hemiclavicular line and lastly a 5mm trocar in the anterior axillar line. We started with division of the short gastric vessels and exposure of the pancreas followed by spleen lower pole exposure. Splenic vessels are ligated with a combination of clips and stapler. Distal pancreatectomy is then accomplished using a stapler. Hemostasis is checked to avoid risk of pancreatic leak. Lastly standard laparoscopic cholecystectomy was performed with no major difficult.

Results

Total operative time was 305 minutes and patient was discharged home on post operative day 6 without abdominal drain. On post-operative day 30 patient presented with abdominal pain and an abdominal CT-scan revealed a 140-cc mass near to the pancreatic clips. Expectant treatment was taken (Clavien-Dindo 1) and a CT-scan 30 days revealed complete resolution of the mass.

Conclusion

Surgery resection constitutes the mainstay of treatment in Frantz tumor resulting in excellent prognosis. Laparoscopic concomitant corpo-caudal pancreatectomy, cholecystectomy, and splenectomy for the treatment of Frantz tumor is a feasible and safe procedure.

Acute cholangitis: Etiological profile and management

Dr. Hicham Elbacha¹, pr nadia Benzoubeir, pr ikram errabih

¹*Ibn Sina Hospital - CHU Ibn Sina, Mohammed V University Rabat, rabat, Morocco*

Aim

Acute cholangitis (AC) is an infection of the bile duct system. Our work aimed to evaluate the epidemiological, etiological, therapeutic and evolutionary aspects of cholangitis.

Methods

This is a prospective descriptive study performed between September 2020 and November 2021. Patients with AC were included. The severity was evaluated according to the TOKYO 2018 guidelines.

Results

We collected 53 cases. The mean age was 61 years [17-90] with a Sex ratio F/M (F=27, M=26) :1.03. The typical clinical presentation was represented by the Charcot triad in 37 patients. The evaluation of severity revealed cholangitis Grade I in 16 cases, Grade II in 24 cases, and Grade III in 13 cases.

Abdominal ultrasound was sufficient to visualize the obstruction in 16 (30%) patients. Bile duct stones were revealed in 30 (56.6%) cases, pancreatic head tumor in 8(15%), cholangiocarcinoma in 9(17%), liver hydatid cyst fistulized in the bile duct in 4(7.5%), chronic calcifying pancreatitis in 1(2%) case.

Antibiotic therapy was administered to all patients. endoscopic retrograde cholangio-pancreatography (ERCP) was performed in 51(96%) patients. Balloon extraction of the stone was performed in 28 (55%) cases. Mechanical lithotripsy was necessary in 1 (2%) case. Biliary prosthesis was inserted in 25 (49%) patients. The rate of early post-ERCP complication was 9.8%. Surgery was indicated in 1case. The death rate was 5.7%.

Conclusion

Cholangitis remains a severe condition requiring urgent management. The prognosis has improved significantly after the advent of interventional endoscopy with satisfactory results.

Severe acute pancreatitis: a case report and review of the literature

Dr. Renata Tamburic¹, Dr. Vesna Kovacevic, Dr. Jelena Petkovic-Dabic, Dr. Goran Topic, Dr. Biljana Topic

¹*University Clinical Centre of the Republic of Srpska, , Bosnia and Herzegovina*

Acute pancreatitis is one of the leading causes of hospital admission from gastrointestinal diseases . Severe acute pancreatitis (SAP) is a type of acute abdominal disease with high incidence, rapid progression, many complications, high mortality rate and is difficult to treat. We report diagnosis and treatment of a case of SAP, including a combination of the relevant guidelines and our experience. The patient, who was a 42-year-old man, was admitted to our hospital after suffering from abdominal pain in the upper abdomen for five day. He was previously hospitalized in a general hospital. The results of a computed tomography scan in the upper abdomen showed changes in the pancreas accompanied by acute fluid accumulation. The blood amylase level was 3000 U/L. Magnetic resonance cholangiopancreatography revealed a communication between the main pancreatic duct and the cystic lesions due to Wirsung duct rupture. Treatment options include endoscopic ultrasound-guided transmural drainage and necrosectomy or onlay pancreaticojejunostomy, or distal pancreatectomy.

Endoscopic biliary drainage in the palliative treatment of Klatskin tumours: Outcomes and factors associated with success or failure

Dr. Ahlame Benhamdane¹, Tarik Addajou¹, Samir Mrabti¹, Asmae Sair¹, Reda Berraida¹, Ilham El Koti¹, Fedoua Rouibaa¹, Ahmed Benkirane¹, Hassan Seddik¹

¹*Department of Gastroenterology, Military Hospital Mohamed V- Rabat, , Morocco*

Background and Purpose

Klatskin's tumour is a cholangiocarcinoma that develops from the right or left bile ducts. Biliary drainage is proposed in palliative situation.

The aim of our work is to report the results of endoscopic biliary drainage as well as the factors associated with its success or failure.

Methodology

This is a retrospective and analytical study conducted between July 2010 and July 2022, including all patients(n=75) admitted with Klatskin's tumour and for whom endoscopic drainage was indicated.

Results

The average age of our patients was 62.6+/-12years. the sex ratio(M/F) was 2.12.

Cholangiocarcinoma was classified as bismuth IV in 50.6%, bismuth IIIa in 30%, bismuth IIIb in 13% and bismuth II in 6% of patients.

60%of patients had liver metastases.

Endoscopic drainage was successfully performed in 81.3% of patients by plastic prosthesis in 32%, by a metal prosthesis in 45.2% and by nasobiliary drain in 4.1%.

Causes of stenting failure were primarily related to failure of papilla catheterisation, failure to pass the guidewire through the stenosis, or duodenal invasion by the tumour.

In multivariate analysis, only the presence of metastases, endoscopic dilatation of the stenosis and Bismuth tumour type modified the outcome.

the Bismuth classification affect the success rate.

Indeed, endoscopic dilatation of the stenosis prior to stenting increases the success rate fourfold. Prosthesis increases the success rate by a factor of 4[OR=4;p=0.01], whereas the presence of metastases decreases this rate by 65%[OR=0.35; p<0.001]. However, tumours classified as Bismuth IV[OR=8; p<0.001] or Bismuth IIIa[OR=5;p=0.004] were associated with a risk of endoscopic treatment failure.

Conclusion

Our study suggests that the presence of metastatic hilar cholangiocarcinoma classified as Bismuth IV or Bismuth IIIa appear to be associated with failure of endoscopic biliary drainage of Klatskin's tumours, whereas endoscopic dilatation prior to prosthesis placement appears to be associated with success.

Predictive factors for therapeutic endoscopic retrograde cholangiopancreatography-related complications in the treatment of choledocholithiasis

Dr. Ahlame Benhamdane¹, Tarik Addajou¹, Samir Mrabti¹, Asmae Sair¹, Reda Berraida¹, Ilham El Koti¹, Fedoua Rouibaa¹, Ahmed Benkirane¹, Hassan Seddik¹

¹*Département de Gastroentérologie, Hôpital Militaire Mohamed V- Rabat, Maroc*

Aims

Endoscopic retrograde cholangiopancreatography (ERCP) is now the exclusive endoscopic therapeutic modality for biliary as well as pancreatic diseases.

The aim of our study is to evaluate the complication rate of ERCP in the treatment of choledocholithiasis and to assess the factors related to their occurrence.

Methods

This is a retrospective descriptive and analytical study including 1048 patients who underwent ERCP for choledocholithiasis between January 2007 and August 2021.

The factors associated with the occurrence of post-ERCP complications were studied by logistic regression analysis.

Results

Among the patients studied, 60.5% had a simple lithiasis, 27.6% had multiple choledochal stones and 11.9% had large stones (> 15mm).

Clinically, 18.7% of the patients presented with cholangitis and 9.4% with acute pancreatitis.

A periampullary diverticulum was found in 9.4% of cases.

A common bile duct stenosis was present in 6.5% of patients.

The primary vacuity rate was 77.3%. However, additional manoeuvres were used in 20.5% of cases.

Complications were reported in 5.8% of cases, including haemorrhage in 4.5%, pancreatitis in 0.8%, cholangitis in 0.2%, perforation in 0.1% and duodenal intubation in 0.2%.

no deaths were reported due to our procedures.

In a multivariate analysis following adjustment of confounding factors, only the presence of a large stone (OR= 5.9, CI (1.460- 23.875), p=0.013) and female gender (OR= 1.867, CI (1.012-3.444), p=0.046) increased the risk of complications during ERCP.

Conclusion

Our study suggests that female gender and the presence of a large gallstone are associated with a high risk of post-ERCP complications.

Minimally Invasive Resection of a Retroperitoneal Ganglioneuroma

Dr. Marina Epstein¹, Dr Vladimir Schraibman, Dr Gabriel Maccapani, Dr Marilia Fernandes, Dr Luis Roberto Nadal

¹*Albert Einstein Hospital, Sao Paulo, Brazil*

Background and Purpose

Ganglioneuromas (GN) belong to a group of neuroblastics tumors originated from the neural crest and are constituted by mature ganglion cells and Schwann cells. In most cases they are asymptomatic and when they trigger symptoms they are due to the mass effect. The diagnosis is suggested by complementary imaging methods but needs histological confirmation. We report a case of robotic excision of a retroperitoneal ganglioneuroma.

Results and Discussion

A 32-year-old male patient without comorbidities presented with sporadic abdominal pain. He had not undergone abdominal ultrasound due to SARS-COV-2 pandemic. In November he felt symptoms compatible with COVID-19, latter on confirmed with a PCR test. Patient underwent chest tomography and was found incidentally a retroperitoneal mass, left para-aortic, at the level of the renal hilum on this side, with approximately 3.4 cm, appearing to contain internal fatty areas, partially included here.

The possibility of injury to the mesenchymal lineage (mainly a liposarcoma) should be considered, admitting differential with injury of neural or paraganglionic origin. Due to the findings, the patient underwent retroperitoneal tumor resection and robotic retroperitoneal lymphadenectomy with the Da Vinci Xi robot. Intraoperative ultrasound was performed for the precise identification of the lesion and cautious tumor dissection and resection was performed, which had minimal contact with the left renal vein. The procedure took about 150 minutes, with an estimated loss of 80mL of blood and the patient was discharged on the 3rd postoperative day.

The anatomopathological examination revealed a maturing ganglioneuroma - a peripheral neural sheath neoplasm consisting mainly of a schwannomatous component and mature and in-between maturation ganglion cells.

Conclusions

The application of robotic surgery for complete and safe resection of a rare retroperitoneal tumor such as GN is an acceptable approach with less sustained blood loss and shorter hospital stay.

A 4-year-old Girl with Crohn's Disease: A Case Report

Dr. Marina Epstein¹, Dr Franco Sapuppo¹, Dr Marília Fernandes¹

¹*Albert Einstein Hospital, Sao Paulo, Brazil*

Background and purpose

Crohn's disease is a chronic transmural granulomatous inflammatory disorder, a type of inflammatory bowel disease that may occur in any part of the gastrointestinal tract, including the mouth. The incidence of the childhood-onset disease is estimated to be 0.1- 11.2 cases per 100,000 individuals per year. The aim of our case report was to describe clinical presentation, imaging study and histopathology finding of Crohn's disease.

Methods(case report)

Female patient, 10 years old, diagnosed at the age of 4 with Crohn's disease. The mother reports that at 18 months of age she started to have peripheral arthritis and was treated with methotrexate with partial improvement. After one year, she presented recurrent episodes of diarrhea and a diagnostic hypothesis was made of a side effect of methotrexate, which was discontinued. At 4 years of age, she presented a new episode of arthritis associated with diarrhea and underwent a colonoscopy that showed granulomatous ileitis. Adalimumab was started and methotrexate reintroduced. The patient presented remission of symptoms for 3 years, and at 7 years of age, she presented a new picture of diarrhea, anemia and signs of malnutrition. The patient underwent a colonoscopy that showed granulomatous ileocolitis and a biopsy of the terminal ileum showed erosive ileitis with microgranulomas and a right colon with exuberant granulation tissue and mixed inflammatory infiltrate. The patient had a positive ASCA and fecal calprotectin above 1800. She was hospitalized and administered intravenous corticosteroids, and infliximab was started. The patient is currently in clinical remission using infliximab.

Conclusions

Biological therapies have clear roles in the induction of remission in severe disease and in the subsequent maintenance of disease with ongoing dosing. The care of children and adolescents with IBD needs to be considered within a multi-disciplinary focus, with many different health professionals playing important roles.

Conservative Treatment of Idiopathic Spontaneous Pneumoperitoneum

Dr. Marina Epstein¹, Dr Franco Sapuppo, Dr Gabriel Maccapani

¹*Albert Einstein Hospital, , Brazil*

Background and Purpose

Pneumoperitoneum is often caused by perforation of hollow viscera, but when an etiology is not identified, it is said to be idiopathic. It is considered a rare condition, as in the last 30 years, just over 20 cases have been described. We present a rare case of an incidental finding of a pneumoperitoneum in a 36 years old female patient.

Results and Discussions

A 36-year-old female patient searched emergency care due to chest and shoulder pain associated with mild abdominal discomfort. She denied vomiting, altered bowel habits, eating food with a possible foreign body. Personal history reported a laparoscopic Nissen fundoplication 9 months ago due to gastroesophageal reflux only.

The patient reported having sexual intercourse 96 hours before the onset of symptoms. On examination, she was in good general condition, hemodynamically stable, with no changes in cardiac and pulmonary auscultation, flabby abdomen, little pain on diffuse palpation, sudden negative decompression negative. The hospital's chest pain protocol was opened. Chest X-rays showed pneumoperitoneum. In view of the findings, chest and total abdomen CT without contrast were requested which showed: topical fundoplication, mild pneumomediastinum, pneumoperitoneum, more evident in the upper abdomen, and in perigastric without free fluid. There were no signs of gynecological disease or gastrointestinal tract perforation. Based on these findings, we diagnosed the patient with idiopathic spontaneous pneumoperitoneum (ISP). She was treated conservatively with close observation and serial abdominal examination. She was discharged asymptomatic from the hospital after 7 days under follow-up.

Conclusions

ISP is a benign condition, but is not a simple diagnosis and should be considered as one of exclusion after discarding surgical causes. It is important to have a notion of the occurrence of cases like this so that the diagnosis can be made with certainty. Imaging exams help to avoid unnecessary laparotomies.

Appendiceal Crohn's disease clinically presenting as acute appendicitis

Dr. Marina Epstein¹, Dr Franco Sapuppo¹, Dr Gabriel Maccapani¹

¹*Albert Einstein Hospital, Sao Paulo, Brazil*

Background and Purpose

Crohn's disease (CD) is a relapsing systemic inflammatory disease, mainly affecting the gastrointestinal tract with extraintestinal manifestations and associated immune disorders. Appendiceal CD is a rare disease but has been well summarized in the various reports. The incidence of appendicitis with granulomatous reaction varies from 0.1% to 2.0%. We present a 30-year-old female with isolated appendiceal Crohn's disease presenting as acute appendicitis.

Case report

A 30-year-old female patient who was previously healthy presented with a history of right iliac fossa pain for 2 days duration without fever. On examination, she was in good general condition with pain in the right iliac fossa and positive sudden decompression. The ultrasound of the abdomen showed a small amount of free fluid in the cavity, a thickened cecal appendix with a diameter of approximately 2 cm. In view of the findings, laparoscopic appendectomy was indicated. During the procedure highlighted an excessively swollen, edematous, and reddish appendix with swelling extending to the base of the caecum. Cut section of the appendix showing an edematous wall with significant mural thickening.

The anatomopathological examination ruled out tuberculosis and infectious causes and revealed prominent lymphoid hyperplasia and numerous non-caseous epithelioid granulomas in the wall of the appendix-aggregates, muscular hypertrophic changes, and fibrous reaction of the appendix wall.

Discussions

Granulomatous inflammation of the appendix is rare, with a reported frequency of <2% in appendectomy specimens. Differential diagnosis should include intestinal tuberculosis, foreign body reaction, diverticulitis of the appendix, yersinia infection and even carcinoma.

Conclusions

The disease limited to the appendix is usually benign and has indolent course than that developed elsewhere. Appendectomy is often sufficient for patients who are diagnosed with radiographic and histologic evidence that show the disease is restricted to the appendix alone, however studies suggest ambulatory follow up for at least 5 years.

Enigma: A Rare Case of Mesenteric Ischemia secondary to Superior Mesenteric Artery Thrombosis and Inferior Mesenteric Artery Atherosclerosis in a patient with Liver Cirrhosis secondary to Schistosomiasis, A Case Report.

Dr. Monikka Pasawa¹, Dr. Dizza Dujali

¹*Davao Regional Medical Center, Tagum, Philippines*

Introduction

Chronic Mesenteric Ischemia is a rare condition accounting less than 1 in 1000 hospital admission secondary to abdominal pain. Usually at least two of the three visceral vessels need to be affected before patient develop symptoms. We describe a patient diagnosed with decompensated liver disease secondary to liver schistosomiasis and was admitted and managed as chronic mesenteric ischemia secondary to Superior Mesenteric Artery (SMA) thrombosis and Inferior Mesenteric Artery (IMA) atherosclerosis. With the patient's consent, this case is presented to contribute to current knowledge about mesenteric ischemia.

Case Presentation

A 47-year-old male diagnosed with liver cirrhosis secondary to liver schistosomiasis came in due to one month abdominal pain associated with two days' melena, diarrhea, vomiting and one day disorientation. Three days post-admission, he was noted with resolution of melena, diarrhea, vomiting, and disorientation, however persistence of abdominal pain prompted consideration of chronic mesenteric ischemia and was confirmed via plain Computed Tomography (CT) scan. Exploratory laparotomy with thrombolectomy was done with intraoperative findings showing diffuse discoloration of the small bowel but with peristalsis, thrombosis at SMA and atherosclerosis at IMA.

Heparin drip was given as management portal vein thrombosis. He recuperated well and eventually discharged improved.

Conclusion

Chronic mesenteric ischemia is a rare clinical symptom that occurs in less than one of 1,000 hospitalizations caused by abdominal pain. It has vague abdominal symptoms and is associated with a high mortality rate of 60% to 100%. Prognosis depends on early detection and intervention, and surgical treatment remains the option of choice.

Keywords

chronic mesenteric ischemia, mesenteric thrombosis, liver cirrhosis, mesenteric ischemia, intestinal angina, liver schistosomiasis, case report

Life-threatening acute middle gastrointestinal bleeding.

Dr. Daniel Conceição¹, MD Ricardo Rios Crespo², MD Juliana Serrazina², MD Patrícia Santos², MD Ana Valente², MD Luís Castro³, MD Filipa Nogueira³, MD José Girão³, Prof. Rui Tato-Marinho²

¹*Instituto Português De Oncologia De Lisboa De Francisco Gentil, Lisboa, Portugal* ²*De Francisco Gentil, Lisbon, Portugal,*

²*Gastroenterology and Hepatology Department; Centro Hospitalar Universitário de Lisboa Norte, Lisbon, Portugal,*

³*Surgery Department; Centro Hospitalar Universitário de Lisboa Norte, Lisbon, Portugal*

A 57 year old female patient with a history of radical nephrectomy for renal cell carcinoma (clear cell - pT3aN0) 3 years ago, referred to Emergency Department for an episode of abundant hematochezia with associated lipothymia. She presented with normal mucous membranes coloration, normotensive and normocardic. Laboratory tests showed normocytic normochromic anemia.

An emergency abdominal-pelvic angio-CT was performed which documented the presence of a probable polypoid lesion in the transverse colon. Colonoscopy: presence of live blood and clots in all segments, more accentuated in the terminal ileum. Upper Digestive Endoscopy: progression until D2, no blood or potentially bleeding lesions.

Accentuation of gastrointestinal hematic losses associated with hemodynamic instability, requiring transfusion support with 2 Red Blood Cell Transfusions (RBT). Repeated abdominal-pelvic angio-CT with evidence of active high output endoluminal bleeding in jejunum.

The patient was medically transferred to a tertiary center. Due to hemorrhagic shock, with poor response to fluid resuscitation and additional transfusion therapy, there was a need for aminergic support. Pulse enteroscopy in the operating room with progression until the proximal jejunum without evidence of a bleeding source. Supra-umbilical median laparotomy with identification in the middle ileum of a hard, centimetric, hypervascularized parietal nodular lesion and downstream of it, Meckel's diverticulum with a small adjacent hematoma. Segmental enterectomy encompassing the nodular lesion and the diverticulum. Postoperative without complications. Histology: metastasis of clear cell renal carcinoma.

Clear cell renal carcinoma is the most common histologic subtype of renal neoplasm in adults (88%), with the most common sites of metastasization being lung, bone, liver, adrenal glands, and brain. The presentation of metastatic disease in the small intestine by manifested middle gastrointestinal bleeding is peculiar for its rarity, and in this particular case, for its clinical exuberance. Interdisciplinary synergism was central to the approach of this case in the emergency department.

Foreign body in the upper oesophagus - a double scope extraction technique.

Dr. Daniel Conceição¹, Ms. Juliana Serrazina², Mr. Sérgio Bronze², Mr. Francisco Faustino², Mr. João Lopes², Mr. Pedro Marques da Costa², Mr. Filipe Marques da Costa³, Mr. Marco Simão⁴, Mr. José Freire⁵, Prof. Rui Tato Marinho²

¹*Instituto Português De Oncologia De Lisboa De Francisco Gentil, Lisboa, Portugal, Lisboa, Portugal,* ²*Gastroenterology and Hepatology Department; Centro Hospitalar Universitário de Lisboa Norte, Lisboa, Portugal,* ³*Anesthesiology Department; Centro Hospitalar Universitário de Lisboa Norte, Lisboa, Portugal,* ⁴*Otorhinolaryngology Department; Centro Hospitalar Universitário de Lisboa Norte, Lisboa, Portugal,* ⁵*General Surgery Department; Centro Hospitalar Universitário de Lisboa Norte, Lisboa, Portugal*

Background and Purpose

Flexible esophagogastroduodenoscopy is the gold standard for removing foreign bodies (FB) of the upper gastrointestinal tract, with a success rate over 95%, with minimal complications. Large sharpened FB are usually challenging to remove and often require surgery.

Methodology

A 52 years old female with bipolar disorder was evacuated to our center after she swallowed a dental prosthesis. Previous nasofibroscope show no FB in the airway. CT scan described a FB attached to the upper oesophagus with minimal mediastinal gas bubbles on the surrounding area. She was then intubated and first attempt of upper endoscopy was made without success, the reason why she was evacuated to a tertiary centre. Revaluation by CT scan showed evidence of densification of the surrounding fat and a high proximity of the metallic elements of the FB to right jugular vein and left carotid artery.

Results and Discussions

Upper endoscopy showed the FB just below the upper oesophageal sphincter (UES). It was tried a first attempt to remove it with mouse tooth retrieval forceps without success due to impaction of the metallic elements in the tissues. Second attempt using two scopes (with transparent short cap attached) and forceps to try simultaneous rotation of the dental prosthesis brought it to the UES. Then the extraction was made with Maguill forceps under direct laryngoscopy. Deep oesophageal mucosal laceration was closed with 5 metallic clips and a nasogastric tube was placed. The patient had a good clinical and radiologic evolution, maintaining oral tolerance, being discharged after 16 days of hospital stay.

Conclusions

With the double scope approach (with two operators) rotation of the FB was possible to achieve, providing traction and opening of the UES to gently slide it up. This technique allowed a controlled extraction, sparing the patient to an invasive surgical intervention.

Cowden Syndrome-Case report.

Prof. Ioannis Moschos¹, DR DIMITRIOS PAIKOS², DR NIKOLAOS RERCHANIDIS², DR NIKOLAOS TSAMPERAS², DR ATHANASIOS PAIKOS², DR ANTONIA VITHOULKA², DR GEORGIOS SOFIANIDES², DR KATERINA PARASKEYAIDOU², DR GEORGIOS PETRIDES²

¹INTERNATIONAL HELLENIC UNIVERSITY, THESSALONIKI, Greece, ²GENIMATAS HOSPITAL, THESSALONIKI, GREECE

Introduction

Cowden syndrome (CS) is a rare disease, inherited in an autosomal dominant pattern with an estimated incidence 1 in 200,000 to 250,000 people. It is associated with germline mutations in the phosphatase and tensin homologue (PTEN) gene, which is the tumor suppressor gene located on chromosome 10q23.3. The features of CS are mucocutaneous lesions (trichilemmomas, acral ceratoses, papillomatous lesions). Patients with CS have a high lifetime risk of breast, thyroid, uterine, and other cancers. Gastrointestinal polyposis is a common manifestation.

Case presentation

A 30-year-old male presented to our department with epigastric pain and dyspeptic disorders. At clinical examination, macrocephaly was observed, whereas laboratory results and sonography of liver/bile ducts were all normal. Gastroscopy revealed esophageal acanthosis and multiple gastric/duodenal polyps (Fig.1). Under the suspicion of a possible hereditary polyposis syndrome, colonoscopy and capsule endoscopy were also performed. In capsule endoscopy, the known gastric and duodenal polyps were noted, whereas such polyps were also revealed up to the proximal jejunum (Fig.2).

In colonoscopy, we had the same findings with multiple polyps (0,2-0,8cm) throughout the colon and biopsies revealed hamartomatous polyps.

Genetic analysis of the phosphatase and tensin homologue (PTEN) gene revealed a heterozygous transition of G to C at nucleotide 165 in exon 3 (c165-1G>C). (Fig3). The rest genetic analysis was normal (Fig.4).

Given the lifetime risk of cancers and especially of breast, thyroid and uterine is high, our patient carried out screening tests (sonography of thyroid, uterine and mammogram) with normal findings.

Conclusion: Cowden syndrome is likely to be underdiagnosed. In cases with multi-organ tumors, diagnostic criteria for CS should be sought in order to increase the diagnostic rates. This is critically important due to syndrome's cancer predisposition. Cancer surveillance for carcinoma detection in the early and curative stages remains the critical aspect of management.

In an intubated patient with COVID-19 with esophageal gap the placement of stent can be used as temporary solution until a thoracic surgery is performed.

Dr Dimitrios Paikos², Prof. Ioannis Moschos¹, Dr Georgios Sofianides², Dr Nikolaos Rerchanidis², Dr Nikolaos Tsiamperas², Dr Athanasios Paikos², Dr Georgios Petrides²

¹*International Hellenic University, Thessaloniki, Greece*, ²*genimatas Hospital, Thessaloniki, Greece*

A 48 y.o. female patient with leukocytosis, BMI >30, SAT 75%, unvaccinated with abdominal dilatation, mainly in the epigastric region, with presence of air in the rhinogastric drainage tube, was subdued in EGD procedure.

Ten days before she was diagnosed with COVID-19 in a country hospital and was transferred to our ICU for further treatment. She was subdued to an endotracheal intubation with oral tracheotube placement. Soon thereafter, the pressure as well as the abdominal dilatation and air in the drainage tube was absent. The ICU unit asked for urgent EGD, to preclude tracheoesophageal fistula. During the EGD, exactly beneath the upper esophageal sphincter (~3cm), the presence of cuff, of oral tracheotube, and tracheoesophageal fistula with Φ 2 cm gap, was found (Photo 1,2). As a result of the heavy respiratory insufficiency and poor overall condition, the thoracic surgery approach was impossible at the time. A guidewire was driven forward and we used an expendable metallic coated stent with Φ 18mm and L8cm, which was covering the fistula 2cm above and 2cm peripherally (Photo 3,4). Initially, during the inflation of the endoprosthesis, it moved inferior to the gap, and with foreign body forceps, it was moved in the correct spot, with its upper apex 1cm above the gap. Subsequently the leakage of air was stopped, as well as the abdominal dilatation of the patient.

Conclusion

This method was used as a bridge for damage management, so the patient can have thoracic surgery in second time. Intubated patients with COVID-19 in a poor overall condition, with esophagus gap, the placement of stent can be used as temporary solution until a thoracic surgery is performed. The collaboration of a medical team consisting of a thoracic surgeon, a gastroenterologist, an invasive pulmonologist, experienced nursing staff, is mandatory for the complete confrontation of such incidents.

PP027

Hyperelasticity & Gastrointestinal Disease, What Should Every Gastroenterologist Know?

Dr. Makki Fayadh¹

¹*Advanced Center For Day Care Surgery, ABU DHAQBI, United Arab Emirates*

Abstract

Background and Purpose

Ehlers-Danlos syndrome is a group of disorders that affect connective tissues supporting the skin, bones, blood vessels, and many other organs and tissues. Defects in connective tissues cause the signs and symptoms of these conditions, which range from mildly loose joints to life-threatening complications. The extent of GI involvement and multiplicity of joint hypermobility are challenges for both clinicians (using the Beighton Score) and radiologists. The exact role of conventional radiology in the imaging workup of GI disorders depends on local expertise and the availability of other diagnostic techniques and modalities.

Methodology

During our practice in ACDS center, we encountered many cases of hyperelasticity associated with esophageal reflux disease, gastroparesis, constipation, and rectal prolapsed with solitary rectal ulcers, imaging starting with ultrasound and confirmed by CT scan showed features of superior mesenteric artery syndrome alone or associated with other vascular compressions

Results and Discussions

25 cases of vascular compressions are presented, the majority were superior mesenteric artery syndrome, of them 4 were operated and the rest are treated conservatively

Conclusions

Hyper elasticity syndromes are a spectrum ranging from a mild form to the more severe Ehler Danlos and Marfan's syndrome, The majority were missed by major centers inside and outside UAE
Awareness to all clinicians to look for this disease, especially in thin hyperelastic patients

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Combined therapy of Sorafenib/BBs in patients with Advanced Hepatocellular Carcinoma.

Dr. Abdelrahman Zakaria¹, Professor Amr Abdelmoety, Professor Aly Soliman, Professor Soad Zaki, Dr Hoda Soliman, Dr Hesham El Tobgy

¹Alexandria Hepatology Center, Alexandria, Egypt

Hepatocellular Carcinoma HCC is a rapidly growing malignancy worldwide , it is working mainly on a complex of immunosuppressive network to alter the host immune system and initiate destruction . The liver hepatocyte and immune cells releases several inhibitory cytokines that promotes tolerogenicity and control the immune response . Sorafenib was out in 2008 and since then no drug showed a remarkable improvements on survival of patients with advanced HCC . Several studies showed it has immunomodulatory function and inhibition of tyrosine kinases . Clinical trial are working on enhancing Sorfenib's immunomodulatory function by adding other methods of therapies as immune checkpoint inhibitors together with transarterial chemoembolization TACE , radio-frequency ablation RFA , microwave ablation MWA and cryoablation . but as the Sorafenib is the solely treatment for the advanced cases of HCC we figured out that its not curable and the disease will eventually progress. This article will review data describing the effect of combination therapy of sorafenib and immunomodulator (BBs IgG 300mg) in an advanced Hepatocellular carcinoma HCC case which showed complete control on the disease progression , tumor showed rapid regression in size and aggressiveness with high response to treatment and improving the patients quality of life . After 5 months the patients parameters went all back to normal and his liver increased in size , better residual liver reserve , showed no denovo lesions or reactivation of the old tumor .

Conclusions

BBs showed marvelous results when being added to sorafenib treatment of advanced HCC .

Widespread primary gastrointestinal Kaposi's Sarcoma

Dr. Tiago Ribeiro^{1,2}, Dr. Rosa Coelho^{1,2,3}, Dr. Hélder Cardoso^{1,2,3}, Prof. Guilherme Macedo^{1,2,3}

¹Department of Gastroenterology, Centro Hospitalar Universitário De São João, Porto, Portugal, ²WGO Training Center, Porto, Portugal, ³Faculty of Medicine of the University of Porto, Porto, Portugal

Kaposi's sarcoma is a vascular tumor associated with HHV-8 infection, occurring almost exclusively in immunocompromised hosts, particularly HIV-infected patients. Visceral involvement is uncommon, most frequently occurring in patients with skin lesions. The upper digestive tract is the most frequent gastrointestinal site of involvement and widespread gastrointestinal involvement is rare. Primary widespread involvement of the gastrointestinal tract has scarcely been reported.

We report the case of a 53-year-old male patient referred for endoscopic assessment due to a 6-month history of epigastric pain and weight loss (15% of previous body weight). His medical history was unremarkable, except for malaria in 2018, and did not take any medication. The patient emigrated to an African country 4 years before and reported multiple sexual partners since then. The esophagogastroduodenoscopy revealed multiple erythematous polypoid lesions with focal erosions in the cardia (measuring approximately 40 mm), gastric body, antrum, and duodenum (extending beyond the second portion). The patient underwent colonoscopy showed multiple lesions with similar morphology at different segments of the colon, including the rectum. Biopsies of these lesions revealed intense mononucleate inflammatory infiltrate, dilated vessels, and sheets of proliferating spindle cells without cytologic atypia. The immunohistochemistry study was positive for HHV-8, ETS-related gene (ERG) and CD31, confirming the diagnosis of Kaposi's Sarcoma. Subsequent tests confirmed HIV infection at a stage of acquired immunodeficiency syndrome (AIDS), with a CD4 count of 297/mm³. Staging exams (computerized tomography of the thorax, abdomen and pelvis, and positron-emitting tomography) did not describe other suspicious lesions. The patient started antiretroviral therapy with tenofovir/lamivudine/dolutegravir and is currently under systemic chemotherapy with pegylated doxorubicin.

PP030

Multisystemic sarcoidosis revealed by hepatosplenomegaly: A case report.

Dr. Banani Soukaina¹, Pr Fatima-Zahra El Rhaoussi¹, Pr Mohamed Tahiri¹, Pr Fouad Haddad¹, Pr Wafaa Hliwa¹, Pr Ahmed Bellebah¹, Pr Wafaa Badre¹

¹*ibn Rochd University Hospital, Casablanca, Morocco*

Sarcoidosis is a systemic granulomatous disease of unknown etiology, characterized by the presence of non-caseating granulomas. Gastrointestinal involvement in sarcoidosis is extremely rare. However, hepatic sarcoidosis occurs in 70% of cases.

This is a case report of multisystemic sarcoidosis revealed by hepatosplenomegaly.

The patient presented initially with asthenia, anorexia, and weight loss. An abdominal computed tomography scan revealed hepatosplenomegaly and lumbo-aortic adenopathy. During hospitalization, the patient presented an extended erythematous cutaneous lesion in the peri-auricular area. The diagnosis of sarcoidosis was confirmed by salivary, cutaneous, and bronchoscopic biopsy, which revealed the presence of epithelioid granuloma without necrosis. Consequently, the patient was treated with oral corticosteroids with good improvement.

PP031

Simultaneous ethanol ablation of a pancreatic neuroendocrine tumor under EUS control and hemicolectomy in a patient with a aggravated somatic history: a clinical case

PhD Evgeniy Solonitsyn¹, Ms. Valeriia Kamalova¹, PhD Ivan Danilov, MD Lubov Mitrofanova¹, Ms. Anastasia Perminova¹

¹*Almazov National Medical Research Centre, Saint Petersburg, Russian Federation*

Background and Purpose

An 81-years-old woman with a pancreatic neuroendocrine tumor (pNET) verified by fine-needle aspiration under endoscopic ultrasound control (EUS-FNA) was symptomatic with organic hyperinsulinism. She was in a state of moderate severity with the necessity of infusion of 40% glucose with the infusion rate 30 ml/h. The preferable method of the treatment was pancreaticoduodenal resection.

A giant laterally spreading tumor of the caecum with extension to the appendix orifice was found during colonoscopy. Endoscopic methods of treatment were considered inappropriate due to the size and location of the neoplasia.

Methodology

Owing to the patient's age and her severe somatic condition, risks of pancreaticoduodenal resection were considered to be unacceptable. However, right hemicolectomy with a background of hyperinsulinism is associated with higher risk of complications. Given the above, it was decided to perform a simultaneous ethanol ablation of a pNET under EUS control and right hemicolectomy.

Results and Discussions. At the first step under EUS control pNET was punctured with a 22 G needle and 1.5 ml of 95% ethanol was injected. Hyperechoic mass appeared within the boundaries of the neoplasm. Immediately after ablation a right hemicolectomy was performed. Drainage tubes were installed in the area of the pancreatic head and in the anastomosis area.

No adverse events were observed in the postoperative period. On the 1st day levels of insulin and glucose normalized so that constant infusion of glucose was canceled. There were no episodes of hypoglycemia in the postoperative period. Drain tubes were removed on the 4th day and on the 7th day the patient was discharged for outpatient treatment in a satisfactory condition.

Conclusions

Cases of ablation of pNET under EUS control were described in literature but this is the first case of simultaneous surgical treatment for concurrent diseases of various localizations.

PP032

Two Case of Severe Gastritis associated with Immune Checkpoint Inhibitor Therapy

Dr. Thomas Talbot¹, Dr. Alice Talbot¹, Dr. Justin Chin¹, Dr. Digby Cullen¹, A/Prof Andrew Dean¹

¹*St John of God Hospital, Subiaco, Perth, Australia*

Introduction

Immune related adverse events (irAEs) vary significantly in presentation. Immunotherapy-related colitis affects up to 25% of patients depending on treatment regimen however immune related gastritis remains relatively rare.[1] A recent systematic review found only twenty-five reported cases of immunotherapy-related gastritis. [2]. We herein present two cases of immune-related gastritis associated with the use of immune checkpoint inhibitors.

Case Reports

Case 1 relates to a 50-year-old male with metastatic renal cell carcinoma treated with four cycles of ipilimumab/nivolumab. On cycle 4 day 6 he presented acutely with epigastric pain and two episodes of haematemesis. Subsequent endoscopy revealed diffuse gastric ulceration and mucosal oedema (Figure 1). Case 2 involves a 48-year-old female with a background of recurrent oral squamous cell carcinoma (SCC) treated with 64 cycles of nivolumab who presented with gradual onset central abdominal pain and associated reflux. Outpatient endoscopy revealed severe non-erosive antral gastritis with easy contact bleeding and surface slough. In both cases CD4 and CD8 immunostaining highlighted a mixed population of lymphocytes in the lamina propria consistent with immunotherapy-related gastritis. No evidence of *Helicobacter pylori* or viral cytopathic effects were identified in either case. In case 1 the patient was treated with four days of IV methylprednisolone(0.5mg/kg) and a continuous pantoprazole infusion(200mg over 24 hours). Mycophenolate mofetil 500mg TDS was also required due to persistent symptoms with subsequent de-escalation to oral steroid therapy. Repeat endoscopy two weeks later showed only mild residual gastritis. In case 2 tapering dose prednisolone was sufficient to provide complete resolution of symptoms without hospital admission. In both cases immunotherapy was held from time of presentation. No further episodes of gastritis occurred in either patient.

Conclusion

Immune related gastritis is a rare complication of nivolumab and ipilimumab treatment. This report describes two such cases with varying degrees of severity and treatment exposure.

PP033

A rare case of GI Bleeding from a duodenal perforation secondary to an Infected Intramural duodenal hematoma

Mr. Timothy Robin Noah Cutter¹, Clin Asst Prof Annalisa Ng Ya-Lyn², Clin Asst Prof James Li Weiquan³

¹Yong Loo Lin School of Medicine, National University of Singapore, , Singapore, ²Department of General Surgery, Changi General Hospital, , Singapore, ³Department of Gastroenterology and Hepatology, Changi General Hospital, , Singapore

Background

Intramural duodenal haematoma usually occurs secondary to blunt trauma mainly in young adults and children, with 82% of the patients being younger than 30 years.

Purpose

We herein present a rare presentation of duodenal perforation secondary to an infected intramural duodenal haematoma.

Methods

A 78-year-old Gentleman of Asian Ethnicity presented to the hospital with 1 day history of melena, Initial Blood tests showed Hb 6.1, WBC 15.8, Urea 13.9.

An urgent oesophagogastroduodenoscopy (OGD) was performed showing a Forrest 2A duodenal ulcer in the 2nd part of the duodenum. Haemostasis was initially achieved through by injecting dilute adrenaline and applying 2 haemoclips. However, the Hb dropped from 8.0 to 7.3 the next day. A repeat OGD found a small oozing spot, and this was similarly treated. The Hb dropped again from 8.6 to 7.26, and in the 3rd OGD, a heater probe was applied to the visible vessel with haemostasis achieved.

Results

The patient developed fever and abdominal pain 3 days after the 3rd endoscopy and a CTMA showed no active contrast extravasation. Laparotomy revealed a serosa defect in the duodenum with haemopurulent discharge found in Morrisons's pouch. Diagnosis was made of a duodenal perforation secondary to an infected intramural duodenal haematoma. Patient recovered well.

Conclusion

An intramural duodenal haematoma should be considered as a differential for perforation of a hollow viscus after repeated OGD for haemostasis.

Brunner's Gland Hamartoma Complicated by Gastric Perforation: A Case Report.

Dr. Nnaemeka Onyishi¹, Prof. Babatunde Duduyemi¹, Dr Mustapha Kabba², Dr Alie Amin Sesay¹

¹*Department of Anatomic Pathology, University Of Sierra Leone Teaching Hospital, Connaught Freetown, Sierra Leone,*

²*Department of Surgery, University of Sierra Leone Teaching Hospital,, Connaught Freetown, Sierra Leone*

Background

Most cases of Brunner's gland hamartoma (BGH) have been diagnosed in the duodenum, but sporadic reports of gastric, jejunal and ileal occurrences are documented. Presenting symptoms are varied, including abdominal pain, abdominal discomfort, abdominal distension, weight loss, melena, decreased appetite, vomiting and hematemesis. However, majority are asymptomatic and incidentally discovered on endoscopy. BGH of the stomach is extremely rare, and presentation with gastric or intestinal perforation is rather odd. We report a rare case of gastric BGH presenting with gastric perforation and acute abdomen.

Case Presentation: Patient is a 42-year-old man who gave a history of longstanding abdominal discomfort. He presented with acute abdomen, and was found to be sweaty, febrile and restless. Exploratory laparotomy revealed a perforation in the greater curvature of pyloric antrum of the stomach with copious collection of offensive fluid in the peritoneum. Wedge resection and surgical repair of gastric perforation was done. On histopathological examination, resected tissue consisted of extensive proliferation of Brunner's glands arranged in lobules in the submucosa of the stomach. In between the lobules in some areas, were wisps and bands of smooth muscle cells and aggregates of lymphocytes. The overlying foveolar epithelium had areas of intestinal metaplasia. Few days post op, patient suffered repair wound dehiscence necessitating a second operative repair. He died of septic shock in hospital Intensive care unit. Debrided tissue from gastric site of wound breakdown harbored residual BGH on histology.

Conclusion

BGH, though benign, may underlie gastric perforation. Late presentation as surgical emergency may hamper preoperative diagnosis, which may contribute to incomplete resection and wound breakdown. Generally, late presentation of gastric perforation of any cause is associated with high mortality rate as a result of sepsis and multi-organ failure.

Gastric Neuroendocrine Tumor Mimicking Hepatocellular Carcinoma in a Hepatitis Endemic Country: A Case Report

Dr. Regina Dimaculangan¹, Dr. Tim Lawrence Lin¹, Dr. Josemari Marcus Brillantes¹, Dr. Ma. Regina Dimaculangan¹, Dr. Joseph Erwin Dumagpi¹, Dr. Nikko Theodore Raymundo¹, Dr. Patricia Cabral-Prodigalidad¹
¹*St. Luke's Medical Center Global City, Taguig City, Philippines*

The most common cause of hepatocellular carcinoma (HCC) in Asia remains to be chronic hepatitis B infection. Rarely has neuroendocrine tumor (NET) manifested in the stomach, let alone metastasize aggressively to the liver and mimic the characteristics of hepatocellular carcinoma.

This is a case of a 63-year-old Filipino male with a known history of chronic kidney disease from bilateral polycystic kidneys who presented with hematemesis and intermittent progressive epigastric pain. Initial imaging revealed multiple hepatic masses and splenic masses. Alpha-fetoprotein (AFP) was elevated, and hepatitis profile revealed concomitant chronic hepatitis B infection. Liver biopsy was done, which revealed hepatocellular carcinoma. However due to the persistent hematemesis, esophagogastroduodenoscopy was done which revealed multiple ulcerating gastric masses where biopsies were taken. As gastric metastases are typically rare for HCC, a diagnosis of NET was entertained. PET-DOTATATE scan revealed multiple-avid lesions in the liver, spleen, pancreas, vertebra, pelvis, and lung. Biopsies of the gastric masses, and repeated liver and splenic mass biopsies with immunostaining all revealed well-differentiated NET. An oral targeted therapy, Everolimus, was then initiated.

Metastatic NETs to the liver may indeed mimic HCC based on elevated AFP and round cells on histopathology. NET remains to be a significant differential diagnosis in a patient presenting with multiple liver masses. It is prudent for all clinicians to do further workup if the information at hand may not fully explain the patient's condition, as this may greatly alter the course of management.

A rare case of malposition of the common bile duct into the jejunum with separated pancreatic duct

Prof. Jong Jin Hyun¹, Prof. Jung Wan Choe¹

¹*Korea University Ansan Hospital, Ansan, South Korea*

A 36 year-old female presented with right upper quadrant pain and jaundice. Laboratory examination at admission showed liver function enzyme elevation and abdominal CT scan showed 7mm sized calcified stone on distal common bile duct (CBD) along with multiple stones in the gallbladder. Endoscopic retrograde cholangiopancreatography (ERCP) was attempted but failed to cannulate the bile duct and only kept on being cannulated into pancreatic duct. After cannulation failure, she underwent percutaneous transhepatic biliary drainage (PTBD) to resolve jaundice and cholangitis. ERCP was performed again several days later but bile duct cannulation was still not possible. Therefore, she underwent percutaneous stone removal (PSR) followed by laparoscopic cholecystectomy. After cholecystectomy, ERCP was attempted once again but bile duct cannulation was still not feasible. Contrast dye was injected via PTBD tube but oddly, no dye was seen coming out from the ampullary orifice. Guidewire was thus inserted via PTBD tube and passed through the ampullary orifice into the small bowel under fluoroscopy. However, the guidewire could not be observed anywhere in the vicinity of the ampullary orifice on endoscopic examination. When fluoroscopic images were carefully reviewed, it could be seen that the guidewire which was inserted into the bile duct and advanced through the bile duct orifice out into the small bowel was actually located in the jejunum instead of duodenum.

The ampulla of Vater is typically located in the second part of the duodenum but can occasionally be located in other parts of the duodenum. However, bile duct draining into jejunum is a very rare anomaly. What makes this case more unique is the separation of biliary system and pancreatic system. The present case is a very rare case of malposition of the CBD that drains into jejunum with separated pancreatic duct draining into duodenum.

PP037

Relation between joint laxity/ hypermobility and the gastrointestinal disorders

Dr. Salem Awadh¹, Dr. Osama Ibrahim²

¹Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ²Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates

Excessive joint laxity, or hypermobility, is a common finding of clinical importance in the management of gastrointestinal disorders.

The main aim of the study was to assess the association between joint hypermobility (JH) and gastrointestinal (GI) disorders in ACDS/UAE.

Ehlers-Danlos syndromes (EDS) and Marfan syndrome (MFS) are multisystemic disorders that primarily affect the soft connective tissues. Both disorders have benefited from recent advances in clinical and molecular characterization, allowing improvements in clinical diagnosis and management.

The extent of GI involvement and multiplicity of joint hypermobility are challenges for both clinicians (using the Beighton Score) and radiologists.

The exact role of conventional radiology in the imaging workup of GI disorders depends on local expertise and the availability of other diagnostic techniques and modalities.

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The exact role of conventional radiology in the imaging workup of GI disorders depends on local expertise and the availability of other diagnostic techniques and modalities.

PP038

IGG 4 RELATED DISEASES CASE STUDIES IN UAE

Dr. Salem Awadh¹, Dr. Makki Fayadh²

¹Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ²Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates

Igg 4 Related Diseases Case Studies In Uae

Salim Awadh Mrcp Uk, Frcp London

Makki H Fayadh Mrcp Uk, Frcp Ed, Frcp London Mwgo

Consultant Physicians & Gastroenterologists

Advanced Center For Day Care Surgery Abu Dhabi-Uae

www.acds.ae

Email: dr_sabih2010@hotmail.com

Abstract

IgG4-RD is a fascinating clinical entity including a wide variety of diseases, formerly diagnosed as Mikulicz's disease, autoimmune pancreatitis (AIP), interstitial nephritis, prostatitis and retroperitoneal fibrosis.

Characteristics common to all forms of IgG4-RD include elevated serum IgG4 concentration and tissue infiltration by IgG4-positive plasma cells, accompanied by tissue fibrosis and sclerosis.

Case studies: IGG4 levels were studied in ACDS in 36 cases with the main presentations of multiple autoimmune diseases, pancreatitis, pachymeningitis,

Inflammatory bowel diseases & clostridium difficile infections.

Conclusion

- Igg4 levels were studied in some patients with auto immune pancreatitis, sclerosing cholangitis, pachy menigitis, colitis, thyroiditis, multiple auto immune diseases, mesenteric panniculitis, auto immune pancreatitis.
- Awareness is needed by all health care workers.

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PP039

Can We Reach a State-of-the-Art GI Endoscopic Sedation in Reality with Balanced Propofol Sedation?

Dr. Salem Awadh¹, Dr. Nagi Amer²

¹Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ²Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates

Abstract

Introduction: In UK a survey snapshot study done in 6 hospitals demonstrated that most procedural sedation occurred in endoscopy units (56.4%). By definition procedural sedation is to help a diagnostic or therapeutic procedure with which we maintain airway patency, spontaneous respiration, protective airway reflexes, and hemodynamic stability while abolishing anxiety and pain.

Hypothesis: It is assumed that the combination of an opioid and benzodiazepine is a safe and effective tool to achieve moderate sedation for GI endoscopy inpatients without risk factors for sedation-related side events

Method

Balanced Propofol Sedation (BPS) with the administration of a suitable dose of an opioid and benzodiazepine followed by intermittent bolus administration of propofol

Results

BPS sedation was associated generally with shorter sedation times and shorter recovery times. Supporting evidence include:

- 1-To improve patient safety and comfort,
- 2-Enhance procedural efficiency and procedure completion
- 3-Reduces In-Room to Scope-In time and recovery time when a physician-led Anesthesia Care Team model.

Conclusions

few recommendations having supporting evidence BPS is a promising technique with better safety and comfort of the patient and Enhanced procedural efficiency concerning the time needed to complete the procedure if a physician-led Anesthesia Care Team is securing the safety.

Updates in Mesenteric panniculitis a study of 20 cases in UAE

Dr. Salem Awadh¹, Dr. Makki Fayadh², Dr. Mahmoud Ellithy³, Dr. Osama Ibrahim⁴, Dr. Kamal Arif Tawfeeq⁵

¹Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ²Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ³Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ⁴Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ⁵Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates

Updates in Mesenteric panniculitis a study of 20 cases in UAE

SalimAwadh, Makki H. Fayadh, Mahmoud Ellithy, Osama Ibrahim, Kamal Arif Tawfeeq

Advanced center for day care surgery ACDS, Abu Dhabi -UAE

Abstract

Mesenteric panniculitis (MP) is a rare fibroinflammatory disease of unknown etiology that usually affects the small-bowel mesentery, although it has also been shown to affect the mesocolon in 20% of all reported cases. Rare sites of involvement include mesoappendix, peripancreatic area, omentum, and pelvis.

Introduction/Objectives

During our practice in UAE we came across 20 cases of mesenteric panniculitis over the last 10years

Abdominal imaging is the mainstay for the diagnosis of the MP,

Material and Method during our practice in ACDS Abu Dhabi we came across over 20 case of mesenteric Panniculitis

Case studies included a husband and wife/ diverticular disease of the colon/ IGG4/ Liver Cirrhosis, Syphilitic Aortitis and Arthritis and 3 Cases in patient using daily Olive oil

Conclusions

Mesenteric panniculitis is a benign condition ,sometimes asymptomatic ,its presentation as a chronic abdominal pain, rarely reported, Awareness is needed for all clinicians

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Giardiasis Presenting As Isolated Short Stature: A Case Report

Dr. Shalini Agarwal¹, Dr Lalit Bharadia², Dr Mansi Faujdar³

¹Department of Pediatrics, SDMHHospital, Jaipur, India, ²Department of Pediatrics, SDMH Hospital, Jaipur, India,

³Department of Pathology, SDMH Hospital, Jaipur, India

Background

Giardiasis in children commonly presents with diarrhoea, bloating, foul smelling or greasy stools, stomach cramps and nausea. The common causes of short stature in children are familial, undernutrition, steroid therapy, hypothyroidism, chronic kidney disease .

We report a case of Severe Giardiasis which presented as short stature.

Case: A 6-year-old girl was brought with the complain of poor growth and anorexia for the past 2 years. On examination her weight and height was below 5th centile for age as per WHO growth chart. As per her parent's height, her target height was between 75th to 97th centile and thus, child was evaluated for pathological short stature.

She was found to have a Hemoglobin of 8.9gm/dl and peripheral blood film showed microcytic anemia and normal stool examination and thyroid function test. Her celiac serology was positive (Anti Tissue Transglutaminase antibody >70 AU/ml). To confirm Celiac Disease endoscopic duodenal biopsy was done which showed normal villi and a large number of giardia organism with lymphoid nodules formation. Patient was given antimicrobials for Giardiasis and advised unrestricted diet considering no histological feature of Celiac disease. On one month follow up there was significant improvement in anorexia. On three month follow up, weight and height increased, appetite improved. Interestingly a repeat celiac serology was negative (Anti TTG antibody <3 AU/ml) suggesting a possible false positive Celiac serology due to Giardiasis. Duodenal biopsy helped us to rule out Celiac disease and also the diagnosis of Giardiasis was diagnosed unexpectedly.

Conclusion

Giardiasis can present as isolated short stature. Giardiasis is also a cause of false positive celiac serology. This case highlights the important of role of duodenal biopsy in confirmation or ruling out Celiac disease and also the diagnosis of Giardiasis.

PP042

Primary Esophageal Tuberculosis Presenting with Dysphagia: A Rare Scenario

Dr. Umair Shafqat¹, Professor Shahid Rasool, Dr Ayman Rehman

¹*Madinah Teaching Hospital, Faisalabad, Pakistan*

Background

Dysphagia is a clinical manifestation with great consequences. Prompt and early diagnosis is the key to long-term management. Despite tuberculosis is common in developing countries, primary esophageal tuberculosis is still a very rare disease. Esophageal manifestations are almost exclusively a result of direct extension from adjacent mediastinal structures. We report a case of an immune-competent man presenting with dysphagia due to primary esophageal tuberculosis

Case presentation

Our patient presented with dysphagia, endoscopy showed thickening and mild narrowing of the lumen with a nodule at the distal esophagus. Histopathology confirmed esophageal tuberculosis. CT scan of the chest excluded pulmonary involvement. The patient was managed conservatively with anti-tuberculous treatment (ATT).

Conclusion

Esophageal tuberculosis is among the differential diagnosis of dysphagia especially when malignancy is ruled out on histopathology and in high-risk populations. Esophageal TB can be managed effectively with ATT if diagnosed early and complications (fistula, stricture, and perforation) can be prevented.

PP043

The value of colonoscopy in evaluation of recurrent Mantle Cell Lymphoma primary in the colon and monitor its response to therapy?

Dr. Nathan Vicknair, Dr. Ningxin Zeng¹

¹*Trios Health Gastroenterology, , United States*

Introduction

Primary GI lymphomas account for approximately 1-4% of all GI malignancies with very few primary mantle cell lymphomas being found as primary lymphomas. Here we first describe the use of colonoscopy as a possible means to monitor response to therapy.

Case Description

Patient is an 82-year-old female who was otherwise previously healthy with no underlying conditions who was found to have stage 4 mantle cell lymphoma and multiple polyps on screening colonoscopy completed in 2020. She was referred to Oncology and initial PET scan showed extensive adenopathy involving multiple lymph nodes. She started chemotherapy and initially responded well. Surveillance colonoscopy was performed 2 years later and revealed two large masses with one in the hepatic flexure and one in the rectum. Biopsies were positive for Mantle Cell Lymphoma again in the cecum and ascending colon, hepatic flexure, and rectum as seen in figures 1, 2, and 3. She continues to receive treatment and follows up closely with Oncology and GI.

Discussion

Primary Mantle Cell Lymphoma within the GI track is rare, accounting for approximately 1 to 4% of cases. However, this case describes Primary Recurrence of Mantle Cell Lymphoma within the colon. The value of colonoscopy in surveillance for those cases is not well studied in the literature. We described a case here showing that routine surveillance colonoscopy after treatment may benefit in the detection of recurrence, as well as the response to treatment. How often and how long a surveillance colonoscopy should be completed needs further study.

PP044

Myeloid sarcoma presenting as a single small colon polyp: A harbinger of myeloid leukemia

Dr. Nathan Vicknair, Dr. Ningxin Zeng¹

¹*Trios Health Gastroenterology, Kennewick, United States*

Introduction

Myeloid sarcoma is an extramedullary tumor associated with acute myeloid leukemia and less likely occurring in myelodysplastic syndrome (MDS), and chronic myelogenous leukemia (CML). Involvement in the GI tract is extremely rare. We present a case of a patient with MDS who had a single small sigmoid colon polyp removed on surveillance colonoscopy found to be myeloid sarcoma.

Case Description

A 74-year-old male with a history of chronic leukocytosis, thrombocytopenia and normocytic anemia seen by Oncology with bone marrow biopsy in 2020 supporting a diagnosis of MDS with questionable CML. Patient was initially referred to GI for melena. Initial colonoscopy in April 2021 revealed 5 large polyps throughout the colon with sizes from 0.7 to 3.3 cm. 3 of the 5 removed polyps showed tubulovillous adenoma. Blood work has been stable over a year. The patient came back for 1 year surveillance colonoscopy showing a 7 mm, pink surface smooth polyp in the sigmoid colon (figure 1). Pathology supported myeloid sarcoma with monocytic features positive for CD4, CD45, and myeloperoxidase.

Discussion

Myeloid sarcoma is an extramedullary tumor consisting of malignant myeloid precursor cells. It is more commonly associated with acute myeloid leukemia; however, in rare cases can be associated with MDS. Most commonly it involves the bone, skin, and lymph nodes; however, literature review revealed rare instances where myeloid sarcoma involved the GI tract as a primary source of leukemia. The most frequent location of myeloid sarcomas when they do occur in the GI tract are the small intestines and gastric body. There are few reports of myeloid sarcoma presenting as a primary site in the colon. So far no reported case in the literature showed any patient with MDS who developed a primary myeloid sarcoma in the colon leading to a diagnosis of leukemia.

PP045

Improvement Of Gastrointestinal Quality Of Life In Cases Of Helicobacter Pylori - Positive Constipation Predominant Irritable Bowel Syndrome

Dr. Waheed Ullah¹

¹Government, Dir lower , Timergara , Pakistan, ²2, Timergara dir lower , Pakistan

Background

Irritable bowel syndrome is one of the most common gastrointestinal motility disorder leading to poor quality of life. Its symptoms include abdominal pain associated with change in consistency / frequency of stool. Most of IBS patients come as an overlap syndrome with upper and lower gastrointestinal symptoms indicating a possible pathogenic role of Helicobacter pylori infestation in causing IBS. With this in mind this study is therefore to observe quality of life of patients with H. Pylori positive constipation predominant IBS following successful H. Pylori eradication.

Methods

This descriptive study was conducted at department of gastroenterology in District Headquarter Hospital Timergara, Dir Lower, Khyber Pakhtoonkhwa from January - 2018 to December - 2019. A total of 112 patients with H. Pylori positive constipation predominant IBS were recruited after informed consent. Rome # 4 criteria was used for labeling patients as having IBS (c). H. pylori infection was diagnosed by serology and LOAD therapy was given for H. Pylori eradication. Eradication of H. Pylori was confirmed using stool antigen test conducted one month after initial therapy.

Results

Out of 112 patients enrolled 62.5% (n=70) were male and 37.5 % (n=42) were female. Regarding age wide range of patients population was included with minimum age of 17 years and maximum 65 year and mean of 37.93 years. Out of 112 patients enrolled 83.9%(n=94) patients were successfully eradicated while 16.1%(n=18) failed to respond. In successfully eradicated patients quality of life of patients such as abdominal pain and discomfort along with bloating, constipation or its severity, significantly decreased as compared to those in whom eradication was not successful.

Conclusion

Thus patient with IBS feeling much better after successful H. Pylori eradication, this subject needs further validation to have multi center and randomized controlled studies.

The periprocedural management of patients on a direct oral anticoagulant (DOAC) requiring an elective digestive (GI) endoscopic procedure remains uncertain.

Mr. Christopher Barkun-Hansen², Ms Myriam Martel², Dr James Douketis³, Dr Neena S Abraham⁴, Dr Zachary Liederman⁵, Dr Eric Kaplovitch³, Dr Sam Schulman^{6,7}, Dr Alex C Spyropoulos^{8,10}, Dr Majid Almadi⁹, **Dr. Alan Barkun¹**

¹McGill University Health Center, Montreal, Canada, ²Research Institute of the McGill University Health Center, Montreal, Canada, ³University Health Network and Sinai Health System the University of Toronto, Toronto, Canada, ⁴Mayo Clinic, Scottsdale, USA, ⁵University Health Network and the University of Toronto, Toronto, Canada, ⁶Thrombosis and Atherosclerosis Research Institute, McMaster University, Hamilton, Canada, ⁷Department of Obstetrics and Gynecology, I.M. Sechenov First Moscow State Medical University, Moscow, Russia, ⁸Institute of Health System Science – The Feinstein Institutes for Medical Research, Manhasset, USA, ⁹King Saud University, Riyadh, Saudi Arabia, ¹⁰Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, Hempstead, USA

Background and Purpose

The periprocedural management of patients on a direct oral anticoagulant (DOAC) requiring an elective digestive (GI) endoscopic procedure remains uncertain. The aim is to investigate the safety of a standardized periprocedural DOAC management strategy.

Methodology

The Perioperative Anticoagulation Use for Surgery Evaluation (PAUSE) cohort study was conducted at 23 North American and European clinical centers. Participants (n = 3007) all had atrial fibrillation (AF), were >18 years old, long-term users of Apixaban, Rivaroxaban, or Dabigatran, and scheduled for an elective procedure or surgery; all could adhere to the DOAC interruption protocol. This analysis focuses on the 579 patients undergoing an endoscopic digestive procedure. The DOAC interruption (1-2 days pre-endoscopy) and resumption (1-3 days post-endoscopy) strategy is based on the DOAC molecule, patient renal function, with most GI procedures considered at “low-risk” for bleeding. Follow-up occurred at 30 days. Outcomes included GI bleeding, thromboembolic events (ischemic stroke, transient ischemic attack, myocardial infarction, systemic embolism, deep vein thrombosis, and pulmonary embolism) and mortality.

Results and Discussions

Of the 556 patients (72.5±8.6 yrs; 37.4 % female), 38.9% were on Apixaban, 36.9% on Rivaroxaban, and 24.3% on Dabigatran; 10.1% were on concurrent antiplatelet therapy. The overall CHADS score was 1.7±1.0. Overall, 525 patients were categorized as low risk for bleeding, and 31 were high-risk. DOACs were stopped 2±0.5 days pre-procedure and restarted 1.9±1.5 days post-procedure. Overall rates were, all bleeding 4.4% (2.9-6.4), GI bleeding 2.5% (1.4-4.2%), while 0.7% (0.3-1.8%) experienced a thromboembolic event. Additional results are listed in Table 1.

Conclusions

Patients with AF undergoing a standardized DOAC therapy interruption management protocol for elective digestive endoscopy experienced low rates of major bleeding and arterial thromboembolism.

PP047

Malakoplakia in the colon in immune suppressed patient, a case study from UAE

Dr. Makki Fayadh¹

¹Advanced Center For Day Care Surgery, Abu Dhabi, United Arab Emirates, ²ACDS CENTER, ABU DHABI, UAE

Introduction

Background and Purpose

Malakoplakia is a rare chronic granulomatous disease that uncommonly arises in the immunocompromised setting. It is thought to involve dysfunctional tissue macrophages termed von Hansemann cells. Histologically, Michaelis-Gutmann's bodies are basophilic cellular inclusions and are pathognomonic for the diagnosis of malakoplakia.

Case study

We present a 63-year-old male treated for Hodgkin lymphoma mixed cellularity 2003, received chemoradiotherapy 2003-2004, developed kidney impairment and pulmonary fibrosis, bone marrow transplant done 2004 developed hypo gammaglobulinemia on monthly gammaglobulin injections presented 2020 with abdominal pain with altered bowel habits and positive occult blood. Colonoscopy showed multiple sigmoid lesions that bleed easily on resection. Biopsy showed chronic Granulomatous Inflammation with Sheets of histocytes with intracytoplasmic Michaelis-Gutmann Bodies.

Conclusion

Clinicians are advised to keep this entity in all immunocompromised patients

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Assessment of effectiveness and safety of colonic decompression tube use

Dr. Nayantara Coelho-Prabhu¹, Dr Zeinab Bakhshi¹, Dr Edward Loftus¹

¹*Mayo Clinic, Rochester, United States*

Introduction

Colonic decompression tubes are used alongside medical management for various conditions in hospitalized patients including sigmoid volvulus and Ogilvie's syndrome. The aim of this study is to describe the effectiveness and safety of colonic decompression tubes in a tertiary referral center.

Method

This observational retrospective study included patients with decompression tube placement from 2018 to 2021. Demographic data, prior surgical history, indications for tube placement, prior neostigmine use, procedural success, clinical or radiologic outcomes, and need for further surgery were obtained from chart review. Adverse events, readmission and death rates recorded within 30 days of tube placement.

Result

97 patients (median age of 67 years old (IQR, 58-77)) at the time of procedure were included (Table-1). 21% patients received neostigmine within a median of three days (1-7.5) prior to colonic tube placement. Median duration of tube placement in the colon was two days (IQR, 1-3). Initial decompression was reported in 75.3% of patients during the procedure or within 6 hours thereafter. Although decompression was also radiologically observed in almost half of the patients, 33 patients (34%) eventually required surgical management in a median of two days (IQR, 1-3.5) after tube placement. Of these, 20 (60.6%) were for sigmoid volvulus and 9 (27.3%) for colonic strictures including malignancy. Six patients (17.6%) who required eventual surgical management needed decompressive tube more than once.

The tube migrated out in 17.5% and clogged in 7% of the patients. Perforation and infection/sepsis occurred in 2% and 4% of patients after tube placement, respectively.

Re-admission and death occurred in 13% and 10% of patients, respectively, within 30 days. Re-admission in 5.2% patients was related to their underlying disease.

Conclusion

Colonic decompression tubes are safe to use when clinically indicated as shown in this large cohort.

Pain Treatment In Patients With Primary Chronic Anal Fissures Using Injection Therapy With Botulinum Toxin Versus Anal Dilation, And Local Nifedipine In Combination With Lidocaine

Prof. Vladimir Andreevski¹, MD Gregor Krstevski¹, MD Fani Licoska Josifovic¹, Prof. Beti Todorovska¹, Prof. Meri Trajkovska¹, Prof. Kalina Grivceva Stardelova¹

¹University Clinic Of Gastroenterohepatology, Medical Faculty, University "ss. Cyril And Methodius", Skopje, Macedonia, Skopje, Macedonia

Aims

To compare the effect of injection therapy with botulinum toxin A (ITBT) vs. anal dilation (AD), and local nifedipine with lidocaine (LNL) in treatment of pain in primary chronic anal fissures (PCAF).

Methods

This controlled retrospective prospective longitudinal study covered 94 patients, divided in 3 groups. The first was treated with ITBT, the second with AD and third using LNL (31, 33 and 30 patients respectively). Clostridium botulinum toxin A was used, dissolved with saline to concentration of 200 U/ml. The solution was applied to both sides of PCAF at dose of 40U. Modified technique of AD was done using 3 fingers of single hand, progressively introduced into the anal canal, followed by gradual lateral distraction during 1 min. LNL therapy was conducted using nifedipine (0.3%) with lidocaine (1.5%) ointment, applied twice daily for 3 weeks. To measure pain, visual analog scale (VAS) was used. The follow-up period was 12 weeks with checkup at week 4.

Results

The median age of participants was 46.6±13.9 years (50 males vs. 44 females). Type of therapy had a significant effect on pain at week 4 ($p=0.0003$). Severe pain was present in only 2 ITBT patients, 16 AD, and 6 LNL patients. Post hoc analyses showed different pain disappearance time until week 12 ($p<0.0001$). The mean time was shortest in ITBTA group (6.1±1.5 weeks). Anal pain intensity significantly differ in 3 groups (Fisher exact, $p=0.002$). Namely, 71% in ITBTA group, rated the pain as weakest (VAS score 1) compared to 18.2% in AD and 30% of patients in LNL group. The overall pain reduction significance in favor of ITBT, was due to the differences between ITBT and AD group ($p=0.00024$) and ITBT compared to LNL group ($p=0.018$).

Conclusion

ITBT is superior to AD and LNL in reducing pain in PCAF.

Colon adenoma and adipokines - Correlation of colon adenoma dysplasia with acyl ghrelin, des-acyl ghrelin and insulin in serum

Dr. Sanja Stojisavljevic-Shapeski¹, Professor Lucija Virovic-Jukic^{1,2}, Assistant professor Davor Tomas^{1,2}, Vedran Tomasic¹, Assistant professor Davor Hrabar^{1,2}, Milena Hanzek¹, Assistant professor Neven Barsic^{1,2}, Dominik Kralj¹, Professor Neven Ljubcic^{1,2}, Assistant professor Tajana Pavic^{1,2}, Assistant professor Alen Biscanin^{1,2}, Professor Marko Duvnjak²

¹University Hospital Center Sestre milosrdnice, Zagreb, Croatia, ²School of Medicine, University of Zagreb, Zagreb, Croatia

Background and Purpose

Ghrelin is an adipokine that has a role in pathogenesis of insulin resistance and metabolic syndrome which are both connected to increased incidence of colon adenoma and colorectal carcinoma. Although investigated in few studies, results on ghrelin serum levels in colorectal carcinoma are inconsistent and in colon adenoma lacking. In this study we wanted to investigate serum levels of acyl and des-acyl ghrelin, insulin and HOMA-IR in correlation to colon adenoma dysplasia.

Methodology

In this prospective study we included 71 patients (53 male and 18 female) who underwent polypectomy for colorectal adenomas in Department of Gastroenterology and Hepatology "Sestre milosrdnice" University Hospital Center in Zagreb, Croatia. Levels of serum acyl ghrelin, des-acyl ghrelin and insulin were determined using enzyme immunometric assay. Colon adenomas were pathohistologically graded according to the stage of dysplasia. Continuous variables were described through medians and interquartile range, their differences analyzed using Mann-Whitney U test and displayed in Box and Whisker plots.

Results and Discussions

Of 71 patients, 37 had adenoma with low grade and 34 with high grade dysplasia. Median value for acyl ghrelin was 21,59 pg/ml (range 4,95 to 250 pg/ml) and 171,53 pg/ml for des-acyl ghrelin (range 119 to 309 pg/ml). Median level for insulin was 15,15 mIU/L (range 0,26 to 82,13 mIU/L). We found that levels of acyl ghrelin, des-acyl ghrelin and their ratio did not correlate with the grade of colon adenoma dysplasia. Furthermore, in our patient cohort insulin and HOMA-IR status did not correlate with colon adenoma dysplasia.

Conclusions

Serum levels of acyl ghrelin and des-acyl ghrelin, insulin levels and HOMA-IR in our patient cohort did not correlate with the grade of dysplasia in colon adenoma. Influence of ghrelin and insulin on colon adenoma dysplasia progression should be investigated in terms of their local synthesis and actions.

Challenges for diagnosis of Tuberculous Ascites in low resource-settings

Dr. Riad Mohammad Moshaed Hossain¹, Dr. Tareq Mahmud Bhuiyan¹, Dr. Mohammad Golam Azam¹, Dr. Indrajit Kumar Datta¹, Dr. Abdullah Al Mamoon¹

¹*Birdem General Hospital, Shahbag, Bangladesh*

Background

High serum ascites albumin gradient (SAAG) is highly suggestive of portal hypertension. Common causes of low-SAAG ascites are tuberculous peritonitis (Peri-TB) and peritoneal metastasis (Peri-met) and the differentiation of them is challenging. PCR with ascitic fluid (AF) appears to be an ideal tool for the diagnosis of tuberculous peritonitis but is not available in all centers.

Objectives

This study had been planned for early and easy diagnosis of tuberculous ascites in low-resource settings.

Methodology

This was an observational study. A total of 25 patients with low SAAG ascites were included. Means are compared with the Independent sample T-test. Cut-off value, sensitivity, and specificity are measured with the ROC curve. This study was carried out at the Gastroenterology Department of BIRDEM General Hospital, Dhaka, Bangladesh.

Results

Among 25 patients with low SAAG ascites, 12 were Peri-met, and 9 were Peri-TB. Ascites with Peri-met show mean results of SAAG: 7.76 ± 2.48 , AF-Glucose 7.13 ± 2.38 mmol/l, AF-ADA 18.04 ± 7.31 u/l, AF-Cholesterol 91.67 ± 38.17 mg/dl. And ascites with Peri-TB shows mean results of SAAG: 6.40 ± 1.08 , AF-Glucose 4.82 ± 1.55 mmol/l, AF-ADA 39.61 ± 13.15 u/l, and AF-Cholesterol: 116.00 ± 13.14 mg/dl. In this study, AF –Glucose < 5.6 mg/dl suggests Peri-TB and it is statistically significant ($p=0.001$) with 75% sensitivity and 78% specificity. Similarly AF-ADA > 26.4 u/l significantly suggests Peri-TB (p -value 0.001) with 88% sensitivity and 82% specificity. But AF-Cholesterol of Peri-met is not significantly different from that of Peri-TB ($p=0.154$).

Conclusion

This small sample-sized study shows, that low AF-Glucose (< 5.6 mmol/l) and high AF-ADA (> 26.4) significantly suggest tuberculous peritonitis.

Duodenocolic Fistula: A Rare Complication of Gastrointestinal Tuberculosis

Dr. Julian Iñaki Garcia¹

¹*De La Salle University Medical Center, Dasmariñas, Philippines*

Duodenocolic fistula secondary to tuberculosis is a rare entity. There is a myriad of etiologies for fistula formation, among those reported include malignancy, previous abdominal surgery, inflammatory bowel disease (IBD), cystic fibrosis, and tuberculosis (TB). This is a case of a 28-year-old Filipino female who presented with periumbilical pain for five months, with associated anorexia, fever, and weight loss in the subsequent days. Three days prior to admission, patient noted an onset of hematochezia and hematemesis. Examination of the abdomen noted hyperactive bowel sounds and tender periumbilical and right lower quadrant pain, and no organomegaly was noted.

Esophagogastroduodenoscopy (EGD) revealed a fistulous opening in the third part of the duodenum and a bleeding vessel. Bleeding was controlled with injection hemostasis and 3 hemoclips were deployed. The colonoscopy revealed a large obstructing, polypoid, ulcerating, and circumferential mass with areas of necrosis that was seen at the proximal transverse colon which precluded further advancement of the scope. Biopsy samples were sent for histopathology investigation and TB polymerase chain reaction (PCR) test. There was no evidence of malignancy or IBD seen during both endoscopic procedures. Computed tomography (CT) scan of the whole abdomen was done which showed inflammatory changes involving the cecum and adjacent duodenum and ileum with coloenteric fistulae. There was noted progression of abdominal lymphadenopathies as well as ascites. Main consideration was an infectious disease process (i.e. TB). Biopsy showed chronic granulomatous inflammation with caseation necrosis and Langhans' type giant cells consistent with tuberculous etiology. TB PCR detected *Mycobacterium tuberculosis*, Rifampicin (MTB, RIF) resistance indeterminate. Category I Anti-TB treatment for six months was started and the service planned to repeat both colonoscopy and CT-scan after the initial round of anti-TB treatment. Currently, the patient is able to work with no abdominal pain and was able to tolerate her anti-TB drug regimen.

Depression In Patients With Clostridioides Difficile Infection

Prof. Svetlana Turcan¹, Valentina Platon¹

¹"Nicolae Testemitanu" State University of Medicine and Pharmacy, Chişinău, Chisinau, Moldova (the Republic of)

Background and Purpose

The correlation between functional bowel disorders, some organic intestinal diseases and depression is well known. At the same time, it has been shown that patients infected with Covid-19 have behavioral and psychological disorders evaluated according to accredited international scales. But the psycho-emotional state of patients with Clostridioides difficile (CD) infection, particularly in the cases after COVID-19 is not studied enough. Thus, we aimed to evaluate depression in patients with CD infection during the recovery period after Covid-19.

Methodology

Hamilton scale (17 items) was used in order to assess the depression grade in patients with CD after-infection with SARS-Cov-2. According to the calculation score, this scale divides patients into four degrees of depression: no depression, mild, moderate and severe depression. CD infection was confirmed by enzymatic analysis of glutamate dehydrogenase and toxins A and B in the faeces of patients with diarrhea.

Results and Discussions

According to statistical analyses from the total group of 28 patients, only 14.29% (4) did not have depression. Mild depression was determined in 75% (21) cases. Mild grade of depression was significantly more frequent among women - 71.4% (15). Moderate depression was determined in 10.71% (3) of patients. The most frequent impairment was observed in young people, with a mean age of 57 ± 10.1 years.

Conclusions

Study results confirm the presence of depression in an extremely large number of patients with CD after COVID-19 infection (24 out of 28). The frequency of depression in the study group was much higher compared to other pathologies such as, for example, irritable bowel syndrome (about 30%). The presented results are preliminary and require further research with multivariate statistical analysis.

Withaferin A attenuates inflammatory response in Caco-2 cells and improves clinical indicators of colitis associated carcinogenesis in mouse models.

Dr. Hyeong-Han Lee¹, Prof. Young-Seok Cho¹

¹*Gastroenterology Of Seoul St. Mary Hospital, Seoul, South Korea*

Withaferin A (WA), derived from *Withania somnifera*, has been reported to exhibit chemo preventive effects against colon carcinogenesis. There are many studies as to proinflammatory cytokines including IL-6 and TNF- α in relation to colitis associated colorectal cancer by activating NF- κ B/STAT3 signaling pathway. In the present study, we investigated the dose-dependent anti-inflammatory activities of WA in vitro and in vivo.

Lipopolysaccharide(LPS)-stimulated Caco-2 cells were used as in vitro models of human intestinal epithelium for the evaluation of anti-inflammatory effects of WA. First we found expression of IL-6, TNF- α , NF- κ B and STAT3 in LPS treated Caco-2 cells. After treating Caco-2 cells with different doses of WA (1,2,4 ug/ml), the ELISA was used to quantify expression levels of IL-6, TNF- α , NF- κ B and STAT3. We next evaluated chemopreventive effect of WA on clinical indicators (DAI, body weight, colon length) using chemically induced dextran sodium sulfate (DSS) mouse models(C57/black6).

In LPS-stimulated Caco-2 cells, expression of IL-6, TNF- α , NF- κ B and STAT3 was noted. We found that WA significantly inhibited the LPS-induced secretion of pro- IL-6, TNF- α in the Caco-2 cells in a dose-dependent manner. Moreover, WA similarly dose dependently suppressed the LPS-induced phosphorylation STAT3 and NF- κ B. In the in vivo experiment, we were able to confirm that the clinical indicators (DAI, body weight, colon length) had significant results in the group administered with 2 mg/kg rather than 4 mg/kg of WA to DSS-treated mice. The following experiment clearly demonstrated the effectiveness of WA in attenuating DAI and colon shortening with a dose of 2mg/kg on day 11 after initiation($p<0.05$).

In summary, our results showed that Withaferin A exerts potent anti-inflammatory effects on DSS-induced experimental colitis. Moreover, WA's potential application to improve clinical outcomes can be drawn from the present study. Therefore, it would be appropriate to continue further investigation to verify clinical utility of the agent.

Colonoscopy aspirates as an alternative for the analysis of intestinal microbiome of patients with gastrointestinal alterations

Ricaurte Alejandro Marquez-Ortiz Ricaurte Alejandro Marquez-Ortiz¹, Moises Leon-Falla Moises Leon-Falla⁷, Deisy Abril Deisy Abril¹, Javier Escobar-Pérez Javier Escobar-Pérez¹, Cristian Flórez-Sarmiento Cristian Flórez-Sarmiento³, **Viviana Parra-Izquierdo Viviana Parra-Izquierdo**³, Philippe Chalem Philippe Chalem⁶, Consuelo Romero-Sanchez Consuelo Romero-Sanchez⁵

¹Bacterial Molecular Genetics Laboratory, Universidad El Bosque, Bogotá, Colombia, ²Cellular and Molecular Immunology Group/INMUBO, School of Dentistry, Universidad El Bosque, Bogotá, Colombia, ³Gastroadvanced, Bogota, Colombia, ⁴Rheumatology and Immunology Department, Hospital Militar Central, Bogota, Colombia, ⁵Universidad Militar Nueva Granada Clinical Immunology Group-School of Medicine, Bogota, Colombia, ⁶. Fundación Instituto de Reumatología, Fernando Chalem, Bogota, Colombia, ⁷Universidad El Bosque, Master's Program in Basic Sciences, Bogota, Colombia

Background and purpose

In Spondyloarthritis (SpA) associated with gastrointestinal tract alterations, stool samples do not allow to differentiate bacterial biodiversity through the gastrointestinal tract, and aspirates surge as alternative for microbiome analysis. This study aims to compare diversity of intestinal microbiome from ileum and colon aspirates versus fecal samples.

Methods

Aspiration of left colon and ileum were collected in thirty-two patients with SpA, with ≥ 2 gastrointestinal symptoms with ileocolonoscopy indication (digital chromoendoscopy with magnification). Samples from oral cavity of these patients were included as controls. Seven healthy individuals and three IBD patients were included as controls. DNA from 129 samples was extracted and used to prepare 16S rRNA gene amplicon libraries. Variable regions V3-V4 were amplified by PCR using primers 341F and 805R. Products were sequenced with Illumina platform to get 301-nt paired-end libraries. The median number of reads was 102,226. Differences were determined with QIIME2 and STAMP.

Results

Bray-Curtis PCoA analyzes showed oral cavity clustered as a distant group to ileum(n=29), colon(n=30) and fecal(n=41) samples. However, feces were slightly distant from ileum and colon. Fecal and oral samples showed higher richness of bacteria ($p < 0.05$, Tukey's test). Aspirates from Ileum and colon exhibited significant lower diversity (Shannon index, $p < 0.0001$) and evenness (Pielou, $p < 0.01$). Taxonomic analysis did not show significant differences between colon and ileum (White's t-test). However, Burkholderiales order was more abundant in colon samples (mean proportion for ileum and colon, respectively: $0.82 \pm 1.07\%$ and $1.54 \pm 1.52\%$, $p = 0.049$). At genus level, Bacteroides and Faecalibacterium were more abundant in fecal samples ($p < 0.05$), whilst Roseburia, Succinivibrio, Alistipes, Ruminococcus and Prevotella predominated in colon and ileum.

Conclusions

Aspirates are valid samples, when taken from colon and ileum allowed the differential evaluation and give important information about the intestinal microbiome. The microbiome's composition varied depending on the origin of the sample

Gut expression of CD71 and its co-expression with Dec-1 is associated with systemic activity indices in SpA patients

De Ávila J J De Ávila¹, Perdomo SJ SJ Perdomo², Velandia-Romero MJ MJ Velandia-Romero³, Castellanos JE JE Castellanos⁴, Ramos-Casallas A A Ramos-Casallas⁵, Acero-M Diana Diana Acero-M⁶, Flórez-Sarmiento C C Flórez-Sarmiento⁷, **Parra-Izquierdo V V Parra-Izquierdo⁷**, Chila-Moreno L L Chila-Moreno⁸, Bautista-Molano W Bautista-Molano W Bautista-Molano⁹, Beltrán-Ostos A A Beltrán-Ostos¹⁰, Jaimes DA DA Jaimes¹¹, Bello-Gualtero JM JM Bello-Gualtero¹², Pacheco-Tena C C Pacheco-Tena¹³, Chalem-Choueka P P Chalem-Choueka¹⁴, Romero-Sánchez C C Romero-Sánchez¹⁵

¹Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ²Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ³Universidad El Bosque, Grupo de Virología, Vicerrectoría de Investigaciones, Bogotá, Colombia, ⁴Universidad El Bosque, Grupo de Virología, Vicerrectoría de Investigaciones, -, Colombia, ⁵Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ⁶Universidad El Bosque, School of Science, Biomedical Master Program, bogota, Colombia, ⁷Gastroadvanced. Bogotá-Colombia. Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ⁸Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ⁹Universidad Militar Nueva Granada, School of Medicine, Clinical Immunology Group, Bogotá, Colombia, ¹⁰Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia, ¹¹Clínicos IPS, Bogotá, Colombia, ¹²Hospital Militar Central, Rheumatology and Immunology Department, Clinical Immunology Group, Bogotá, Colombia, ¹³Instituto de Biomedicina de Chihuahua, Chihuahua, Mexico, ¹⁴Fundacion Instituto de Reumatología Fernando Chalem, Bogotá, Colombia, ¹⁵Universidad El Bosque, Cellular and Molecular Immunology Group/ INMUBO, Bogotá, Colombia

Background and purpose

secretory-IgA (S-IgA) production could influence Spondyloarthritis (SpA) activity and progression. S-IgA Reverse transcytosis is a GALT mechanism associated with apical expression of transferrin receptor (CD71) and Dectin-1 (Dec-1), enhancing systemic inflammation. This study aims to evaluate the apical expression of CD71 and Dec-1 in gut tissues from SpA without IBD patients and its association with histological findings and activity of disease.

Methods

180 patients with SpA (ASAS/criteria) were assessed by rheumatologists, 63.1% met selection criteria, and were assessed by a gastroenterologist to perform digital chromoendoscopy with magnification and histological analysis. CD71 and Dec-1 receptors expression were evaluated by indirect-immunofluorescence. Serum S-IgA was measured by ELISA, and clinical indices BASDAI, BASFI, ASDAS-CRP, ASDAS-ESR were assessed. Gut tissue from healthy controls was included as negative control. Associations were evaluated using Chi-square or Fisher's test, and binomial logistic regression analysis. Multiple correspondence discriminant analysis (MCDA) was performed including variables with significant associations.

Results

Average age was 44,6±10.2years, 56.1%were men, 90.2%had axial involvement. CRP 1.7±2.4, and ESR 14.1±12.0mm/h. BASDAI high activity scores was found in 58.5%, and ASDAS-CRP in 75.6%. Dec-1 apical expression was observed in 23.0% of biopsies, CD71 in 29.7%, and 13.5% co-expression of both. Dec-1 was associated with Ileum inflammatory changes(p=0.05) OR:3,06(95%CI:1.00-10.01), and coexistence of Diarrhea plus higher BASDAI(p=0.009) OR:2,34(95%CI:0.72-7.61), while CD71 showed association with ASDAS-CRP highest scores(p=0.036) OR:1,71(95%CI:1.00-3.11), serum S-IgA levels(p=0.046) OR:0,99 (95%CI 0.97-1.02). The co-expression of Dec-1/CD71 was associated with Ileum Cryptitis(p=0.023) OR2,11(95%CI:1.00-1.03), Ileum Villi Atrophy(p=0.038) OR:4,24(95%CI:1.00-18.88), ESR(p=0.005). Two models of MCDA were made, one including CD71 expression, showed Cronbach's Alpha reliability

coefficient 0.666, and other with CD71/Dec-1 co-expression, showed Cronbach's Alpha reliability coefficient 0.597.

Conclusion

CD71 local expression and its co-expression with Dec-1 reflects systemic inflammation, the increase of ASDAS-CRP and serum S-IgA levels in SpA patients. Retrotranscytosis markers could be the key in gut-joint-axis.

Eureka: Colon Adenocarcinoma with Splenic Metastasis Presenting as Splenic Abscess in a Young Filipino Female, A Case Report

Dr. Monikka Pasawa¹, Dr. Dizza Dujali

¹*Davao Regional Medical Center, Tagum, Philippines*

Introduction

The spleen is a very hostile environment for tumor cells which makes it one of the most unique organ to be involved in metastatic diseases. Splenic metastases from non-hematologic malignancies are rare ranging from 0.6 to 7.1% on autopsy reports and 1.1 to 3.4% on review of splenectomy cases. Isolated splenic metastases are more infrequent with only 31 cases reported from 1969 to October 2015.

Albeit rare, abscess can also result from migration of gut flora brought about by direct invasion of tumor cells from a neighboring neoplasm.

We report an interesting case of splenic abscess associated with splenic flexure perforation secondary to colon cancer with splenic metastasis.

Case Presentation

This is a case of a 36-year-old female who came in with a history of abdominal pain, chills and fever for seven months. CT scan of the whole abdomen with contrast was done revealing splenic abscess with suspicion of a splenic rupture. Exploratory laparotomy with abscess evacuation, with splenectomy and double barrel colostomy was done and given with intravenous antibiotics. Histopathology results of the spleen revealed metastatic adenocarcinoma in the spleen. Thorough deliberation of her case was done and eventually was managed as a case of Colon Cancer Stage IV and was chemotherapy.

Conclusion

Splenic abscess developing from a splenic metastasis from a colonic adenocarcinoma is rare and with concomitant high mortality rate. More often than not, splenic metastasis is discovered in advanced stage together with metastatic tumor in other organs while isolated splenic metastasis is even more uncommon. A splenic abscess as an initial demonstration of a colon cancer is not commonly encountered by physicians hence a high index of suspicion coupled with imaging is necessary in order to provide prompt medical and surgical intervention.

Keywords

splenic abscess, splenic metastasis, splenic rupture, colon cancer, splenectomy, chemotherapy, case report.

Barriers And Willingness For Colorectal Cancer Screening In A Muslim Population Of South Asian Country: Nationwide Survey (Interim Analysis)

DR. TAUQEER SHAIKH¹, PROF. LUBNA KAMANI¹, DR. KHALID AHMED TAREEN, DR. MIAN SHAH YOUSAF, DR. TALAL KHURSHEED BHATTI, DR. HIFZA BASHIR¹, DR. JALPA DEVI, DR. MUHAMMAD AKRAM

¹*Liaquat National Hospital Karachi, Pakistan, Karachi, Pakistan*

Introduction

Colorectal cancer (CRC) is the third most common cancer worldwide. CRC death is largely preventable if detected early. Barriers and willingness for CRC screening are not studied previously in Pakistan.

Aims & Methods

To evaluate barriers to CRC screening in the Pakistani population aged > 40 years. Its a cross-sectional, questionnaire-based study was conducted among the general population from all provinces of Pakistan. Data were analyzed by using IBM SPSS Statistics v27.

Results

It is an ongoing study where 4877 participants were included with a mean age of 46.05 ± 14.65 years. Out of these, 3365 (69%) were males. The results showed that 3822 (78.4%) participants were unaware of CRC disease. Furthermore, 3518 (72.1%) participants had no intention to get screened in the future. The main barriers were, lack of knowledge/awareness of CRC screening test 70.5% ($p < 0.0001$), cost and lack of government funded screening program 84.4% ($p < 0.0001$), shame of getting screened and absence of preferred gender doctor for colonoscopy 59.9% ($p < 0.0001$). Ineffectiveness of screening tests and doubt about the safety of colonoscopy 50.4% ($p < 0.0001$), fear of getting abnormal results 57.6% ($p < 0.0001$), and lack of doctor's recommendation for CRC screening 75.1% ($p < 0.000$) was also found to be a significant barrier.

Conclusion

In our ongoing survey, we found multiple colorectal cancer screening barriers among the general Pakistani population. A majority of participants were unaware of CRC disease. An extensive government-led awareness campaign must be launched and doctors should discuss CRC screening with their patients. Moreover, the availability of preferred gender endoscopists must be ensured to increase compliance.

Prediction Of Post-Colonoscopy Colorectal Cancer In Statin Users With Machine Learning Model

Dr. Ka Shing Cheung¹, Dr Thomas KL Lui¹, Prof Wai Kay Seto¹, Prof Wai K Leung¹

¹University Of Hong Kong, , Hong Kong

Background & Aims: While statins may have chemopreventive effect on CRC, certain individuals remain at risk. We aimed to develop a machine learning (ML) model to predict postcolonoscopy (PCCRC) risk in statin users, and to determine high-risk subgroups.

Methods

This was a retrospective cohort study based on a territory-wide electronic healthcare database in Hong Kong. Individuals aged at least 40 years who had undergone colonoscopy between 2005 and 2013, and had used statins for at least 90 days within 5 years before index colonoscopy were recruited. Statin users were divided into training (n=20,358) and validation set (n=5,089) in a random selection with bootstrap method of training of ML model. Data was used to construct CatBoost model to predict outcome of PCCRC-3y (defined as CRC diagnosed between 6 months and 3 years after index colonoscopy). The variables input into the CatBoost model included age, sex, history of colonic polyps, biopsy/polypectomy at index colonoscopy, smoking- and alcohol-related diseases, 12 comorbidities (including cardiovascular diseases, dementia and parkinsonism), use of concurrent medications (NSAIDs/aspirin/COX-2 inhibitors and metformin), annual colonoscopy volume and polypectomy rate of the center. The performances of the CatBoost model was assessed by the area under receiver operating characteristic curve (AUC) analysis.

Results

25,447 subjects, 114 (0.45%) developed PCCRC-3y. The AUROC of the Catboost Model was 0.77 (95% CI: 0.82-0.86) with a sensitivity of 74% (56-92%), specificity of 79% (77-80%), positive predictive value of 1.7% (0.9-2.5%) and negative predictive value of 99% (99-99%). Feature extraction showed that age (16.2%) and biopsy/polypectomy at index colonoscopy (14.0%) were two most important factors influencing CatBoost model, while other factors contribute to less than 5% individually.

Conclusions

The Catboost model has satisfactory performance in predicting PCCRC-3y risk among statin users. Older age and history of colonic polyps/polypectomy are the most important factors in determining PCCRC-3y risk.

The Effectiveness of Fecal Immunochemical test as Compared to Fecal Occult Blood Test as a Screening Tool for Colorectal Cancer: A Meta-Analysis

Dr. Henry De Guzman, Prof. Higinio Mappala ¹Jose Reyes Mem. Medical Center, Manila, Philippines

Background and Purpose

Colorectal cancers (CRCs) are those that occur in the colon. More than 90% of CRCs are seen as adenocarcinomas. Studies also suggest that the fecal occult blood test (FOBT) can be effective in the screening of CRCs. Though this diagnostic test has been long used in the screening for CRC, some references commented on its relatively low diagnostic accuracy.. Fecal immunochemical tests (FIT) are being extensively studied for their ability to screen colon cancer, much so that some studies have even proven this test to be more accurate than the fecal occult blood test. Several studies, including cohorts and clinical trials, have already documented evidence of this effectivity, but no synthesis of evidence has been done yet for these studies as of the moment of writing. For this study, it is generally aimed to determine the effectiveness of FIT as compared to FOBT in colorectal cancer screening.

Methods

The literature search strategy involved the use of PubMed and ClinicalKey journal databases and searched for randomized controlled trials spanning from years 2010. Out of 182 articles found and screened for inclusion into the study, a total of 7 studies, with a total of 12,577 patients (6,934 patients given the FIT and 5,643 given the FOBT) included in the meta-analysis.

Conclusion

On the basis of sensitivity, FIT was found to be the more sensitive test as compared to FOBT (MD: 26.83, 95%CI 12.16-41.51, $p < 0.000001$) on the results of the meta-analysis. However, FIT is less specific than FOBT from the results (MD: -3.78, 95%CI -7.28,-0.27, $p < 0.000001$).

Colon Polyp Detection In Covid 19 Era

Dr. Oana Timofte¹, Dr Elena Gologan¹

¹"Gr.T.Popa" University of Medicine and Pharmacy, Iasi, Romania, Iasi, Romania

Introduction

During covid 19 pandemic, the addressability of patients in endoscopy departments was restricted, in order to focus on the fight against pandemic.

Material and method

We performed a retrospective study, including 30 patients, who underwent colonoscopy in a 3 month-period, during September- November 2021. The inclusion criteria were: age above 18 years, indication for colonoscopy established by a gastroenterologist. For 20 patients (66%), the indication for colonoscopy was established during a period between 6 and 10 months before the colonoscopy.

Results

For 3 patients (10%), the colonoscopy revealed colo-rectal cancer, unique tumors. 15 patients underwent endoscopic polypectomy for pedunculated polyps or diminutive polyps (50%), anatomo-pathological evaluation described adenomatous polyps, for 10 of them with high-grade dysplasia (33%). 12 patients (40%) had normal colonoscopies.

Discussion

The delay was motivated by the limited access to invasive evaluation in 8 patients, for the rest it was mentioned the fear of covid 19 infection- 20 patients (66%), fear induced by entourage considering the evaluation- 18 patients (60%), fear of discovering an organic pathology – 5 patients (16,6%).

Conclusion. Lack of communication and limited access to investigations prolonged the time for waiting the colonoscopic evaluation and delayed diagnosis. Further explanations and efforts still need to be performed in order to convince patients to prioritize colonoscopy.

Increasing the effectiveness of cancer primary and secondary prevention. The Potential role of Military Medical Forces.

Dr. Maysam Akroush¹, Dr. Pier Natali²

¹Mtcc, Fuhais, Jordan, ²"Regina Elena" National Cancer Inst., Rome, Italy

Increasing the effectiveness of cancer primary and secondary prevention. The Potential role of Military Medical Forces.

Maisam Akroush MD, Pier Giorgio Natali MD. The Mediterranean Taskforce for Cancer Control, Rome, Italy (MTCC, www.mtcc-prevention.net)

Prevention and Early Diagnosis are established priority strategies in cancer control. Therefore, implementation and dissemination of policies aimed at translating these anticipatory care strategies into practice is critical in contrasting the foreseen increasing global cancer burden, changing epidemiology, the diminished role of primary care, costs, and disparities. The appreciation that military medicine can support global health is increasingly recognized. However, attempts to increase the engagement of military medicine in civil public health are limited. In consideration that in peacetime Military Medicine

- is caring for active and retired personnel and their family members in significant number with «no disparities»
- has a closer logistic and referral (Military Hospitals) between General Medicine and Specialists which is advantageous in limiting the occurrence of «advanced disease»
- can resort to Opportunistic screenings during the mandatory routine check-up's
- features robust command/control hierarchies which can enforce «adherence to guidelines»
- dealing with risk management can manage Environmental /Occupational relevant risks more efficiently
- is relatively shielded by changes in health care "economic restrictions"

Military General/Internal medicine and Specialists represent valuable supportive partners of their civilian counterparts in cancer control, primarily in diminishing the incidence of advanced disease, "The key challenge in cancer medicine".

The history of public health has clearly documented that only integrated programs resort in durable outcomes, thus MTCC strongly advocates that Military Medicine merges its defense and security missions with those of civil society at the national and global levels by enforcing the above activities which in peacetimes minimally conflict with the issue of "dual loyalty".

Novel Automated Endoscopic Biopsy Device

Prof. Iyad Khamaysi¹

¹Rambam Health Care Campus, Haifa, Israel

Background

Obtaining histologic specimens or core biopsies using endoscopic ultrasound-guided fine-needle biopsy (EUS-FNB) needles has generated a great deal of interest in the field of EUS-tissue acquisition.

Different FNB needle designs have been described and include reverse bevel needles, Franseen type needles, fork-tip needles, and needles with an antegrade core trap.

Several studies have recently evaluated the role of FNB needles with variable success rates.

Device description

<https://youtu.be/XBUjejPbFHg>

<https://youtu.be/56Z--oHQZSs>

We developed Precision™, a novel motorized, automated, untethered EUS biopsy device to overcome the limitations in diagnostic yield with existing EUS-FNB products.

Precision is an automated endoscopic biopsy device that deploys a motorized revolving needle to acquire high-quality core tissue for histopathology.

Precision's unique cutting needle design along with the rotation-axial motion produces smooth tissue cutting and intact core-tissue quality, without crushing or pulverizing the samples. Precision is less user-dependent and designed to achieve greater diagnostic accuracy.

Due to Precision's unique and less operator dependent cutting mechanism; a single pass is often sufficient for adequate blood-less tissue sample; decreasing procedure time and risk.

Preliminary results

Once the approval from the ministry of health was received, a first-in-human clinical comparative non-inferiority study was initiated at the Rambam Health Care Campus in Israel (RMB-0428-18). The study compares Precision automated EUS biopsy device to the SharkCore manual cutting EUS biopsy device by Medtronic.

To date, ten patients have been enrolled in the study. Initial results have demonstrated excellent ease of use and safety profile. Diagnostic yield was equally high (100%) in both arms but the tissue quality and adequacy for molecular analysis (pathologist scores) were better in Precision (100%, 96%, respectively) compared to the SharkCore needle (73%, 60%, respectively) (p=ns).

Future directions

Next stage clinical trials will be designed to evaluate the adequacy of Precision biopsy samples for Next-Generation Sequencing

Endorotor-Based Endoscopic Necrosectomy

Dr Miguel Pérez Ferrer¹, Dr. Isabel Maestro²

¹Hospital Universitario Severo Ochoa, Leganés, Madrid, Spain, ²Clínica Rotger. Quirón Salud. , Palma de Mallorca, Spain

Title: Endorotor-Based Endoscopic Necrosectomy

Introduction

A 63-year-old man with acute necrotizing pancreatitis referred to our center for drainage of pancreatic collections. We placed a lumen-apposing metal stent and performed 5 sessions of conventional necrosectomy, with difficulty in extracting the material due to the inadequacy of the tools and the characteristics of the necrosis (gelatinous-dense). Given the limited clinical and radiological progress and considering the lack of specialized material an important limitation, we propose an alternative. The EndoRotor® device (Interscope Med. United States) is an endoscopic resection device modified specifically for this use.

Description of the technique

A single session of transgastric necrosectomy was performed with EndoRotor®. Through the working channel (3.8mm), the device was introduced, which consists of a hollow and rotating external catheter with a window that allows tissue access to its interior, where another motorized rotating internal catheter fragments the tissue and a suction-irrigation pump suctions it out. The system allows a 360° orientation of the blade access window, making it possible to be selective when approaching necrotic tissue. With fine movements of the endoscope we introduce the necrotic material into the catheter. Both the suction power and the rotation speed can be adjusted to optimize the procedure according to the characteristics of the tissue. In 2 hours, 90% of the necrosis was removed without complications.

Conclusions

Necrosectomy with EndoRotor® is a simple, effective and safe technique that expands our therapeutic arsenal and can reduce the number of procedures required compared to the usual technique.

Dysphagia and esophageal stricture with foreign body impaction in the esophagus following tracheal stent for malignant obstruction of the trachea

Dr. Abdullah Shatnawei¹, Dr Ruba AlRefai¹, Yvonne Khazen¹, Dr Mu'ed Alkhalaileh¹

¹Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates

Introduction

Central airway stent can be used to open an airway obstruction or to seal a defect. Tracheobronchial stent offers a minimally invasive palliative therapy for patients with unresectable malignant central airway obstructions. These have low complication risk that includes excessive granulation tissue, tumor ingrowth, stent migration, and poor patient tolerance. We report a case of post tracheal stent esophageal stricture leading to foreign body/Food impaction of the esophagus while patient was hospitalized

Case:

An unfortunate 30 years old Zimbabwean lady with recent diagnosis of large anterior mediastinal adenocarcinoma required a 16 mm x 60 mm fully covered metallic tracheal stent placement due to tracheal obstruction, she required ECMO at one point in time.

GI service was consulted because the patient felt food bolus in her esophagus confirmed with CT chest and neck. The patient was taken to OR after coordinating with cardiology, anesthesia and pulmonology teams who placed the tracheal stent. A bronchoscopy was performed to place an endotracheal tube just above stent, then an EGD was attempted. Initially, it revealed upper esophageal stenosis, with a lumen smaller than diameter of pediatric upper endoscope <6 mm which required balloon dilation, then passage of the pediatric XS scope, where a food bolus was removed/pushed to stomach. An NG tube was then inserted over a guide wire. The patient underwent another bronchoscopy with balloon dilation of tracheal stent. Patient underwent PEG placement by IR later on same admission.

Discussion

To our knowledge, this is the first case of food bolus due to esophageal stenosis secondary to tracheal stent. While tracheal stent is lifesaving, esophageal stricture is a potential complication and treating team should be aware of this potentially life-threatening complication

Evaluation of Safety and Efficacy of Fixed Dose Combination of Esomeprazole and Sustained Release Levosulpiride for Short Term Therapy of Gastroesophageal Reflux Disease in Patients Not Responding to PPI Monotherapy

Dr. Piyush Patel¹, **Dr. Yogesh Garje**², Dr. Darshana Makwana³, Dr. Sanjay Deshpande⁴, Dr. Anumala Kavitha⁵, Dr. Narayan Sonawane⁶, Dr. Kartik Patel⁷, Dr. Ranjana Deshmukh⁸, Dr. Prakash Kurmi⁹, Dr. Shrihari Dhorepatil¹⁰, Dr. Sandip Nijhawan¹¹, Dr. Ramesh Kumar Gupta¹², Dr. Anupam Mandal¹³, Dr. Rahul Kothari¹⁴, Dr. Maulik Doshi¹⁵, Ms Shruti Dharmadhikari¹⁶, Dr. Suyog Mehta¹⁷, Dr. Sadhna Joglekar¹⁸

¹Sun Pharma Laboratories Limited, Mumbai, India, ²Sun Pharma Industries limited, Mumbai, India, ³BJ Medical College and Civil Hospital, Ahmedabad, India, ⁴Aster Adhar Hospital, Kolhapur, India, ⁵Guntur Government Hospital, Guntur, India, ⁶Supe Heart and Diabetes Hospital and Research Centre, Nashik, India, ⁷Kanoria Hospital and Research Centre, Gandhinagar, India, ⁸Dr. Hedgewar Hospital, Aurangabad, India, ⁹Shivam Hospital and Diagnostic Centre, Ahmedabad, Ahmedabad, ¹⁰Shree Hospital, Pune, India, ¹¹SMS Medical College and Attached Hospitals, Jaipur, India, ¹²Marudhar Hospital, Jaipur, India, ¹³IPGMR and SSKM Hospital, Kolkata, India, ¹⁴PDEA's Ayurved Rugnalay and Sterling Multispeciality Hospital, Pune, India, ¹⁵Sun Pharma Laboratories Limited, Mumbai, India, ¹⁶Sun Pharma Laboratories Limited, Mumbai, India, ¹⁷Sun Pharma Laboratories Limited, Mumbai, India, ¹⁸Sun Pharma Industries Limited, Mumbai, India

Background and Purpose

Proton pump inhibitors (PPIs) are superior to H2-receptor antagonist in healing esophagitis and resolution of gastroesophageal reflux disease (GERD) symptoms. Levosulpiride, D2 dopamine antagonist, increases lower esophageal sphincter pressure, accelerate gastric emptying, and improve symptoms in functional dyspepsia and diabetic gastroparesis.

Methods

This Phase IV study conducted in India enrolled 500 GERD patients not responding to PPI monotherapy. Endoscopic evaluation was done at screening if it was not done within 3 months preceding screening. Patients were prescribed fixed-dose combination (FDC) of esomeprazole (40mg) and levosulpiride sustained-release (SR) (75mg) once-daily for 4-weeks.

Primary endpoint was assessment of proportion of patients with adverse events (AEs) or serious AEs (SAEs). Secondary endpoints were change in Frequency Scale for the Symptoms of GERD Scale (FSSG) and GERD symptoms severity on Likert Scale from baseline, CGI-I and CGI-S scale score, and evaluation of neurological side effects by Modified Simpson-Angus Scale.

Results

Overall, 55 patients reported 61 AEs, most were mild in intensity and unlikely related to the study drug. At Week-4, 12 patients (2.5%) reported minimal degree of movement disorder and 1 patient (0.2%) reported clinically significant degree of movement disorder. Raised prolactin levels were reported in 5.4% of patients. In the intention-to-treat population (n=500), significant decrease ($P<0.0001$) in FSSG score was observed at Day-14 (-32.7%) and Day-28 (-54%) compared to baseline. Statistically significant ($p<0.0001$) decrease of 16.4% and 35.7% was also observed in Likert scale score for severity of GERD symptoms at Day-14 and Day-28, respectively. In approximately 67% patients, improvement of disease condition was rated as either 'very much improved' or 'much improved' on CGI-I scale. No patient was 'severely ill' or 'most extremely ill' as assessed by clinician on CGI-S scale at Week-4.

Conclusion

FDC of esomeprazole 40mg-levosulpiride SR 75mg was effective and well-tolerated as short-term therapy of GERD

Efficacy and safety of pantoprazole dual-release gastro-resistant tablets compared with pantoprazole tablets in patients having refractory moderate to severe gastroesophageal reflux disease

Dr. Yogesh Garje¹, Dr. P. Shravan Kumar, Dr. Vatsal Mehta, Dr. B Ramesh Kumar, Dr. Kaivan Shah, Dr. Rahul Bhalgami, Dr. Keyur Sheth, Dr. M. Murugesh, Dr. Ayaskanta Singh, Dr. Akash Shukla, Dr. Mahesh Mahadik, Dr. Debasis Basu, Dr. Anumala Kavitha, Dr. Harshad Soni, Dr. Mandhir Kumar, Dr. Saroj Kant Sinha, Dr. Hemant Gupta, Dr. Maulik Doshi, Dr. Piyush Patel, Ms Shruti Dharmadhikari²⁰, Dr. Suyog Mehta²¹, Dr. Sadhna Joglekar²²
¹Sun Pharma, Mumbai, India, ²Gandhi Medical College, Hyderabad, India, ³Kanoria Hospital and Research Centre, Gandhinagar, India, ⁴Osmania General Hospital, Hyderabad, India, ⁵Bodyline Hospital, Ahmedabad, India, ⁶Hitech Multispeciality Hospital, Gandhinagar, India, ⁷Vijay Vallabh Hospital and Medical Research Centre, Virar, India, ⁸Kovai Diabetes Speciality Centre and Hospital, Coimbatore, India, ⁹IMS and SUM Hospital, Bhubaneswar, India, ¹⁰LTM Medical College and LTM General Hospital, Sion, India, ¹¹O & P Hospital, Pune, India, ¹²Apollo Gleneagles Hospital, Kolkata, India, ¹³Government Hospital, Guntur, India, ¹⁴Kaizen Hospital, Institute of Gastroenterology and Research Centre, Ahmedabad, India, ¹⁵Sir Ganga Ram Hospital, Delhi, India, ¹⁶Nehru Hospital, PGIMER, , India, ¹⁷Samvedna Hospital, , Uttar Pradesh, ¹⁸Medical Affairs, Sun Pharma Laboratories Limited, Mumbai, India, ¹⁹Medical Affairs, Sun Pharma Laboratories Limited, Mumbai, India, ²⁰Sun Pharma, Mumbai, India, ²¹Sun Pharma, Mumbai, India, ²²Sun Pharma, Mumbai, India

Background and Purpose

Vast majority of patients experience troublesome symptoms and/or complications of gastroesophageal reflux disease (GERD), even on standard doses of proton pump inhibitors (PPIs) because of poor compliance and suboptimal pharmacokinetic and pharmacodynamics profile. High dose PPI with dual-drug release (DDR) technology releases drug over a longer period than conventional formulation, thus providing prolonged duration of action.

Methods

This Phase III, 6 weeks (2-weeks screening, 4-weeks treatment) study evaluated efficacy and safety of pantoprazole-DDR 80mg versus pantoprazole 40mg once daily in adult Indian patients with refractory moderate-to-severe GERD (diagnosis confirmed by endoscopy and pH-metry) who failed on standard dose of PPI treatment.

Results

Of the 417 patients screened, 300 eligible patients (Pantoprazole-DDR 80mg n=152; pantoprazole 40mg n=148) were enrolled in the study. Study groups were not significantly different in terms of baseline demography and disease characteristics. At Week-4, change in baseline frequency scale for the symptoms of GERD (FSSG) score was significantly more in pantoprazole-DDR 80mg than pantoprazole 40mg (-15.26±7.06 vs -9.48±7.44; p<0.0001). Pantoprazole-DDR 80mg was also superior in terms of percentage of 24h heartburn free days (50.58±16.54% vs 40.06±15.85%; p<0.0001), percentage of patients achieving sustained resolution of heartburn (7 consecutive heartburn free days) (10.8% vs 4.1%; p= 0.0441), percentage days without nighttime heartburn (69.63±13.05% vs 62.33±16.12%; p<0.0001) and daytime heartburn (76.08±11.16% vs 70.87±14.73%; p=0.0007). The DDR formulation was also superior in quality of life (QoL) and clinical global impression of improvement assessments. Study medications were well tolerated; no serious adverse event or significant change in laboratory parameters were reported.

Conclusion

Pantoprazole-DDR 80mg, when compared to pantoprazole 40mg, provided significant benefits in FSSG score, frequency and sustained resolution of heartburn, and QoL in refractory moderate-to-severe GERD.

The DDR formulation was well tolerated. Thus, pantoprazole-DDR 80mg can be considered as suitable therapeutic option in patients with moderate-to-severe GERD.

Esophageal manometry in Gastro-esophageal reflux disease

Dr. Rajiv Baijal¹, Dr. Dinesh Kumar¹

¹*Pushpawati Singhanja Hospital And Research Institute, New Delhi, India*

Background and Purpose

Gastro-esophageal reflux disease (GERD) is characterized by transient lower esophageal sphincter (LES) relaxations, hypotensive LES, ineffective esophageal motility (IEM) and hiatal hernia. In this study, manometric abnormalities in adult patients with GERD were evaluated.

Methods

This was a cross-sectional observational study conducted at Pushpawati Singhanja Research Institute (PSRI), New Delhi from December 2019 to November 2020. Patients above 18 years of age were included in the study if they had reflux symptoms for >3 months, were unresponsive to medication or planned for anti-reflux surgery. Patients with achalasia, varices, previous gastro-esophageal surgery, esophageal cancer, corrosive injury, acute cardio-respiratory disease or pregnancy were excluded. HRM was performed using a 16-channel water-perfused system manufactured by RMH, Australia. Chicago classification v3.0 was used. Statistical analysis was done using Chi-square test and Receiver operating characteristic (ROC) using SPSS software v21.0.

Results

Among 76 patients (43 males, mean age:47 years), the most common symptom was heartburn(80.26%), followed by non-cardiac chest pain(44.7%), dysphagia(11.8%), dry cough(1.3%), epigastric burning(1.3%) and belching(1.3%). Mean duration of symptoms was 1.6 ± 2.1 years. IEM was seen in 31.5%, hypotensive LES in 10.5% and hiatal hernia in 7.8% patients. Mean EGJ contractile integral (CI) was 47.1. There was no statistically significant difference in IEM, basal LES pressure and EGJ-CI between patients with erosive and non-erosive reflux disease. A cut-off value of 20.9($p=0.76$) was obtained using ROC analysis of EGJ-CI for predicting GERD, with a sensitivity of 23.9%, PPV 73.3% and diagnostic accuracy 48.6%.

Conclusions

IEM, low LES pressure, low EGJ-CI and hiatal hernia are associated with GERD, but do not predict the disease with sufficient accuracy. There was no significant difference in the manometric findings in patients with erosive and non-erosive esophagitis.

Prevalence and Risk Factors of Gastroesophageal Reflux Disease: A Report from PERSIAN Cohort Study

Dr Anahita Sadeghi¹, Dr Ali Mehrpour², Dr Ali Ali Asgari¹, Dr Hosein Poustchi¹, Dr Maryam Sharafkhah²

¹Digestive Diseases Research Institute, Tehran University of Medical Sciences, Tehran, Iran., Tehran, Iran, ²Tehran University of Medical Sciences, Tehran, Iran., Tehran, Iran

Background

This study assessed the prevalence of gastroesophageal reflux disease (GERD) in a general adult population in Iran. The association of GERD with demographic variables was also evaluated.

Methods

We performed a cross-sectional study in individuals over 35 years old that were enrolled in the PERSIAN cohort (n=163,027). GERD was defined as heartburn or regurgitation at least a few days a month. Survey design analysis for pooled data was performed and multiple regression analysis was conducted to determine the independent risk factors for GERD.

Results

GERD symptoms were found in 34443 (standardized prevalence 21.87%, 95%CI 17.37%-26.37%) of the participants. The mean age was 49.8 ± 9.3 (SD) years and 22116 (64.21%) were female. Heartburn, regurgitation, and both symptoms were reported in 72.3%, 14.7%, and 13.0% respectively. Among GERD patients, 26.96% of patients had daily symptoms, 37.58% few times a week and 35.46% few times a month. In multivariate analysis, GERD was more prevalent in female gender (Odds ratio: 1.58, 95% CI: 1.43-1.74), current smoker (Odds ratio: 1.25, 95% CI: 1.10-1.41), sleeping less than 6h (Odds ratio: 1.12, 95% CI: 1.02-1.23), drinking hot tea (Odds ratio: 1.08, 95% CI: 1.03-1.13), fatty liver (Odds ratio: 1.63, 95% CI: 1.44-1.85), renal failure (Odds ratio: 1.29, 95% CI: 1.03-1.63), cardiovascular disease (Odds ratio: 1.53, 95% CI: 1.40-1.68), depression (Odds ratio: 1.47, 95% CI: 1.26-1.73), psychiatric disease (Odds ratio: 1.62, 95% CI: 1.45-1.81) and less prevalent in high wealth score (Odds ratio: 0.66, 95% CI: 0.44-0.98). GERD was more prevalent in individuals with a BMI more than 30 in univariate analysis but after multivariate the effect was not significant (Odds ratio: 1.07, 95% CI: 0.98-1.17).

Conclusion

We found a high prevalence of GERD in this population-based study. GERD was associated with female gender, smoking, drinking hot tea, sleep disturbance, and underlying disorders

Diagnostic Variability Of Esophageal Motility Disorders According To The Chicago Classification 4.0 Versus 3.0

Dr. Christian Von Muhlenbrock^{1,2}, Dr. Fernando Torres¹, Daniela Simian¹, Dr. Claudia Defilippi¹

¹universidad De Chile, Santiago, Chile, ²universidad De Los Andes, Santiago, Chile

Background

Chicago Classification Version 4.0 (Ccv4.0) Is The Updated Classification For Oesophageal Motility Disorders Using High-Resolution Manometry (Hrm); It Incorporates Wet Swallows In Supine And Upright Positions As Well As Provocative Testing (Multiple Rapid Swallow – Mrs - And Rapid Drink Challenge -Rdc-), With Changes In The Diagnostic Criteria For Esophagogastric Junction Outflow Obstruction (Egjo) And Ineffective Oesophageal Motility (Iem). Purpose: To Compare The Manometric Diagnosis Obtained By Applying Ccv3.0 Criteria Versus The New Ccv4.0 And Describe The Role Of Provocative Tests. Methodology: Retrospective Observational Study. All Hrm Performed With The Ccv4.0 Protocol Between March 2021 And March 2022, Were Analyzed, Applying The Diagnostic Criteria For Ccv3.0. We Excluded Patients With History Of Oesophageal Surgery And Those Who Were Not Possible To Cross The Lower Oesophageal Sphincter With The Probe. For Statistical Analysis We Used X2 Test Using Stata. Results: 382 Patients Were Included, Median Age 52 Years (Sd 15,7 Years; 10 – 84), 259 Women (68%). The Main Reason For Referral Was Heartburn/Gerd (46%), Followed By Dysphagia (33%). Patients With Absent Contractility, Achalasia And Hypercontractile Oesophagus Maintained Their Diagnosis. Seven Percent Of Patients (28/382) Changed Their Diagnosis Using The New Criteria (Ccv4.0), 21 From Iem To Normal Motility (21% Vs 16%, $P = 0.05$); And 3 Out Of 9 Egjo Were Reclassified As Normal, All Of Them With A Normal Rdc. Pressurization In Rdc Was Observed In 1% Of Normal Patients And 100% Of Achalasia, With An Or 66.20 (Ic 95% 14.45 – 303.3; $P < 0.0001$) For Egjo Using Ccv4.0 Criteria. Half Of Iem Patients With Ccv4.0 Had Absence Of Post-Mrs Contraction Augmentation (Or 1.71, Ic 95% 0.98 – 2.99; $P = 0.059$). Conclusions: In Our Local Experience With Ccv4.0, 7.3% Of Patients Were Reclassified, A Third Of Patients With Iem And A Third Of Egjo Become Normal.

Effectiveness of Rabeprazole in Moderate and Severe GERD – A Retrospective, Real-world, EMR study from India

Dr. Kranthi Kiran Pebbili¹, Dr Bharadwaja Pendurthi¹, Dr Shashank Ashit Desai¹

¹Dr Reddys Laboratories Pvt Ltd, HYDERABAD, India

Background and Purpose

Despite the common usage of Rabeprazole among GERD patients, there are limited studies evaluating its effectiveness in Indian settings. The current study evaluated effectiveness of Rabeprazole in providing symptomatic relief in patients with moderate and severe GERD in India.

Methodology

In this multicentre retrospective study, electronic medical records of GERD patients who were prescribed PPIs between 2016 and 2020 at multiple Indian healthcare settings were reviewed. Patients were divided into three groups based on the PPI (Rabeprazole/Pantoprazole/Esomeprazole) received. Resolution of GERD symptoms was assessed at four follow-up visits (1-7 days, 8-30 days, 31-60 days, and 61-90 days following the baseline visit) and compared. Data was analysed using R-studio 3.5.3. Effectiveness of Rabeprazole on symptomatic relief at different visits was evaluated and compared using Chi-square test/Fisher's exact test.

Results and Discussions

Overall, 269 patients were included in the study. 120 patients were included in the Rabeprazole Group and 102 among them were categorized into moderate and severe GERD based on symptoms at baseline. In the moderate and severe GERD patients, Rabeprazole showed a significant improvement in daytime and nocturnal symptoms at visit 1 (days 1-7) compared to baseline, with significant number of patients showing complete relief from daytime (38.78%, $p<0.001$) and nocturnal (52.44%, $p<0.001$) heartburn, as well as other daytime symptoms like regurgitation (44.44%, $p<0.001$), epigastric pain (66.04%, $p<0.001$), bloating (56%, $p<0.001$), vomiting (70.83%, $p<0.001$), and nocturnal symptoms like regurgitation (67.12%, $p<0.001$), epigastric pain (67.16%, $p<0.001$), bloating (73.81%, $p<0.001$). The percentage of patients experiencing complete symptomatic relief increased significantly at visit 4, with 93.88% ($p<0.001$) and 97.56% ($p<0.001$) showing complete relief from daytime and nocturnal heartburn, along with other GERD symptoms.

Conclusions

In patients with moderate and severe GERD, Rabeprazole was effective in providing quick as well as complete symptomatic relief from both daytime and nocturnal GERD symptoms.

Advancing age and higher BMI both predict true pathologic reflux among Emirati patients with reflux symptoms who undergo wireless pH monitoring: A Case Control Study

Dr. MOSTAFA Shehata¹, DR MALIK TALHA¹, Dr MONA AL ZAABI¹, DR AMERIAH AL ALI¹, DR KALIFA AL TINJI¹, Dr Michael Wallace¹SSMC, ABU DHABI, United Arab Emirates

Background and purpose

Diagnosis of gastroesophageal reflux disease (GERD) relies on recognition of symptoms of reflux and/or the presence of mucosal changes at the time of esophagogastroduodenoscopy. And response to acid suppression therapy. Reliable recognition of symptoms however is challenging. A high DeMeester score as measured during 96-hour intra esophageal wireless pH monitoring to identify pathologic reflux appears to be the best diagnostic tool for GERD. To identify potential predictors of a high DeMeester score among GERD patients.

Methods

We conducted a retrospective case control on patients who underwent wireless pH monitoring from January 2020 to April 2022. Cases were patients who had a high DeMeester score (> 14.7) and controls those without. We collected clinical and demographic data including age, ethnicity, gender, BMI, smoking status, NSAID use, presence of atypical symptoms. After summary statistics, logistic regression analysis performed to examine the association between several potential predictors and the incidence of high DeMeester score.

Results

86 patients were included, there were 44 cases and 42 controls. Age ranged between 19-76 years. Among cases, 52% of the patients were female vs. 68% were females among controls. Majority of the cohort was Emirati nationals in both groups. Majority of both cases and controls were non-smokers, Majority among both group were not taking NSAIDs. There was a much higher proportion of overweight or obese patients among the cases. Logistic regression demonstrated that advancing age (mainly in the 20-29 age group) was associated with a higher likelihood of pathologic reflux (OR8.0 95%CI 1.43-44.9 $P=0.02$). Moreover, overweight patients were 3 times more likely to have pathologic reflux compared to patients with normal weight (OR3.3 95%CI 1.13-9.76 $P=0.02$).

Conclusion

Advancing age between 20-29 years and being overweight both appear to be predictors of true pathologic reflux among patients with reflux symptoms who undergo wireless pH monitoring

A single-use endoscopy system for identification of abnormalities in the distal oesophagus of individuals with chronic reflux.

Ms. Nafiseh Mirabdolhosseini¹, Dr Vincent Ho^{1,2}, Dr Jerry Zhou¹

¹*Department of Translational Gastroenterology, School of Medicine, Western Sydney University, Sydney, Australia,*

²*Gastroenterology Department, Campbelltown Hospital, Sydney, Australia*

Purpose

The dramatic global rise in acid-reflux has also led to oesophageal adenocarcinoma (OAC) becoming the fastest growing cancer in developed countries. While gastroscopy with biopsy is used to diagnose OAC patients, this labour-intensive and expensive process is not suitable for population screening. This study aims to design, develop, and implement a minimally invasive system to capture optical data of the distal oesophagus for rapid screening of potential abnormalities.

Method

To develop the system and understand user requirements, a user-centric approach was employed by utilising co-design strategies. Target users' segments were identified, and 38 patients and 14 health providers were interviewed. The technical requirements were developed based on consultations with the industry. A minimally invasive optical system was designed and developed considering patient comfort. This system consists of the sensing catheter, controller unit, and analysis program. Its procedure only takes 10 minutes to perform and does not require cleaning afterward since it has a single-use catheter. A prototype system was evaluated for safety and efficacy for both laboratory and clinical performance.

Results

This prototype performed successfully when submerged in simulated gastric fluid without showing evidence of erosion after 24 hours. The system effectively recorded a video of the mid-distal oesophagus of a healthy volunteer (34-year-old-male). The recorded images were used to develop an automated program to identify abnormalities in the distal oesophagus. Further data from a larger clinical study will be used to train the automated program.

Conclusion

This system allows for quick visual assessment of the lower oesophagus in primary care settings and can serve as a screening tool for OAC. In addition, this system can be coupled with ambulatory pH monitoring to better correlate oesophageal physiological changes with reflux symptoms. It also can provide additional information on lower oesophageal sphincter functions such as opening times and bolus retention.

Diagnostic Utility Of The 24-Hour Esophageal Impedance Ph-Metry Indicators Of Gastroesophageal Reflux Patients

Dr. Govhar Imanli¹

¹*Azerbaijan Medical University, Baku city, Азербайджан*

Aim

To examine relationship between the type of the reflux disclosed during the 24-hour esophageal impedance pH-metry in patients with gastroesophageal reflux disease (GERD) and endoscopic signs and impedance pH-metry indicators.

Materials and methods

The study included 60 GERD patients: 39 of them (65%) were men and 21 (35%) were women. The age range was between 20 and 70 years of age. The average age was 41.1 ± 1.6 . These patients underwent esophagogastroduodenoscopy (EGDS) and 24-hour esophageal impedance pH-metry. Esophagitis grades during EGDS were assessed according to the Los Angeles classification. During the 24-hour esophageal impedance pH-metry, De-Meester score and other pH-metry indicators were estimated. The relationship between the types of the reflux and esophagitis rates and 24-hour esophageal pH-metry indicators was statistically determined.

Results

During the 24-hour esophageal impedance pH-metry examination, according to the nature of the reflux, 27 patients (45%) had acid reflux, 26 patients (43.3%) had weakly-acid reflux, and 7 patients (11.7%) had weakly-alkaline reflux. As for the relationship between the type of the reflux and the esophagitis grade, as the severity of the esophagitis increased, the acid reflux became more common in patients. Acid reflux was diagnosed in 83.3% of patients with B and D grade esophagitis ($p = 0,000$). A significant positive correlation was found between the type of the reflux and the pH-metry indicators ($p=0,000$). Thus, in contrast to the weakly-acid reflux, in acid and weakly-alkaline reflux types the indicators for the total reflux, reflux in standing position, reflux in lying position, number of reflux periods, number of reflux periods lasting more than 5 minutes, duration of the longest reflux and De-Meester scores were higher ($p=0,000$).

Conclusion

There is a significant relationship between the type of the reflux detected during the impedance pH-metry and endoscopic signs and impedance pH-metry indicators.

Diagnostic Utility Of The 24-Hour Esophageal Impedance Ph-Metry Indicators Of Gastroesophageal Reflux Patients

Dr. Govhar Imanli¹

¹*Azerbaijan Medical University, Baku city, Azerbaijan*

Materials and methods

The study included 60 GERD patients: 39 of them (65%) were men and 21 (35%) were women. The age range was between 20 and 70 years of age. The average age was 41.1 ± 1.6 . These patients underwent esophagogastroduodenoscopy (EGDS) and 24-hour esophageal impedance pH-metry. Esophagitis grades during EGDS were assessed according to the Los Angeles classification. During the 24-hour esophageal impedance pH-metry, De-Meester score, reflux duration- total, reflux in standing and lying positions, number of reflux periods, duration of the longest reflux, number of reflux periods lasting more than 5 minutes were estimated. De-Meester score is calculated based on the registered pH-metry indicators. The relationship between the types of the reflux and esophagitis rates and 24-hour esophageal pH-metry indicators was statistically determined.

Results

During the 24-hour esophageal impedance pH-metry examination, according to the nature of the refluctuation, 27 patients (45%) had acid reflux, 26 patients (43.3%) had weakly-acid reflux, and 7 patients (11.7%) had weakly-alkaline reflux. As for the relationship between the type of the reflux and the esophagitis grade, as the severity of the esophagitis increased, the acid reflux became more common in patients. Acid reflux was diagnosed in 83.3% of patients with B and D grade esophagitis ($p = 0,000$). A significant positive correlation was found between the type of the reflux and the pH-metry indicators ($p=0,000$). Thus, in contrast to the weakly-acid reflux, in acid and weakly-alkaline reflux types the indicators for the total reflux, reflux in standing position, reflux in lying position, number of reflux periods, number of reflux periods lasting more than 5 minutes, duration of the longest reflux and De-Meester scores were higher.

Conclusion

To conclude, there is a significant relationship between the type of the reflux detected during the 24-hour esophageal impedance pH-metry and endoscopic signs and impedance pH-metry indicators.

Esophageal Tears During Endoscopy Case Studies From Acids

Dr. Salem Awadh¹, Dr. Makki Fayadh²

¹Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates, ²Advanced Center For Daycare Surgery, Abu Dhabi, United Arab Emirates

Abstract

Introduction

During our work in our ACDS center, we encountered cases of esophageal tears induced by the passage of the endoscopy or after esophageal biopsies.

Cases included hyper elasticity, hypereosinophilia & high IgG4

Case studies

Case 1 :A 19 years old Emirati male patient, presented September 2021 pain and difficulty in swallowing . Clinically he has hypermobility of the joints.

Upper endoscopy showed hiatal hernia with ,dilated stomach filled with bile, large duodenal ulcer but on endoscope withdrawal 2 large tears were managed with clips successfully.

laboratory showed very high IGE over 5000

Managed with PPI and anti IGE treatment

Case 2: A Male patient 40 with Celiac Disease suspected EOE, FMF and High IGG4, Long esophageal tear occurred after esophageal biopsy

Case 3: A lady patient 19 with hyperelasticity with intracranial aneurism, EOE , headaches, single esophageal biopsy with large tear occurred successfully clipped.

Conclusion

We have seen 3 cases of Esophageal Tear in patients with hyperelasticity with EOE and hyper IGE. Caution is need by Endoscopies to check for this diseases before endoscopy

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Small Mallory Weiss Tear resulting in Large Blood Loss

Dr. Nabiha Haider¹, Dr. Muhammad Khan, Dr. Amna Haider, Dr. Ashrif Al-Ghanoudi

¹*Franciscan Health, , United States*

Mallory Weiss Syndrome (MWS) refers to severe bleeding from the GI tract caused by a tear of the mucous membrane typically near the gastroesophageal junction. It is the cause of 1-4% of cases with upper gastrointestinal bleeding (GIB). Although the exact pathophysiology of MWS is not fully understood, it is thought to result from sudden and severe increase in intraabdominal pressure. Notably, about 50-70% of patients diagnosed with MWS have a history of heavy alcohol ingestion with a 2-4 fold higher incidence in males aged 40-60 years old. Here we present a male with MWS.

A 37yo male with history of hypertension and alcohol use disorder presented with maroon colored emesis, diaphoresis and epigastric pain. He reports waking up in the morning and drinking water. Soon after, he began vomiting. Output was initially clear then red. The night prior, the patient reported drinking at least 12-18 beers. Labs showed anemia and CT abdomen showed no source of bleeding. He received IV fluids, pantoprazole and multivitamins. Hematemesis did not resolve and he promptly underwent esophagogastroduodenoscopy. Endoscopy showed a small non-bleeding Mallory-Weiss tear at the gastroesophageal junction which was clipped. Symptoms resolved following aforementioned interventions.

In many cases, bleeding caused by MWS is self-limited and managed conservatively with rest, anti-emetics, antacids, and fasting. However, intervention should be considered in cases where bleeding does not resolve or if bleeding is brisk to prevent complications. Since there are no physical signs specific to MWS, it is important to remain vigilant for developing instability, blood loss, and most importantly, to obtain a detailed patient history. Understanding the cause of MWS can allow clinicians to anticipate complications and aid in providing education to patients to prevent recurrence.

Endoscopic dilation in Pediatric esophageal strictures – a single center experience

Dr. Lalit Bharadia¹, Dr Shalini Agarwal¹

¹*Santokba Durlabhji Memorial Hospital, Jaipur, India*

Background:

Esophageal stricture in children has different etiologies. Endoscopic dilation is the preferred mode of treatment. This is a report of our experience of endoscopic dilation in esophageal strictures in children.

Method

Retrospective analysis of records of endoscopic dilations of children less than 18 years with esophageal stricture over a one-year period from January 2021 to Dec 2011 at a tertiary trust hospital in north India. Dilation was done under fluoroscopic control at a 2-3 weekly intervals under general anesthesia till an age specific predefined target diameter was achieved with complete relief of symptoms. Thereafter, dilation was performed as per age of the infant or on as needed basis.

Results

During the study period of 1 year, a total number of 130 endoscopic esophageal stricture dilation procedures were performed in 63 patients. The median age of the patients was 28 months (range 1.5 months to 18 years). The male: female ratio was 1.7 :1. Forty-six children (73 %) had anastomotic stricture post-surgical repair for esophageal atresia. The second common etiology was corrosive in 9 patients (14 %). Majority were dilated using Savary-Gilliard bougie dilators except Ballon dilator in the 2 Achalasia cardia patients and Eder Peustow in 1 case with anastomotic recurrence stricture post corrosive surgery. Corrosive strictures required more number of dilations to reach the target diameter as compared to the commoner anastomotic stricture (4 Vs 2 respectively). Two children (1.5 %) developed perforation post dilation, both were successfully managed conservatively on nil per oral and antibiotics for 7 days.

Conclusions

Anastomotic stricture is the most common causes of esophageal stricture in our case series. Savary-Gilliard dilation is safe and effective method of dilation. Corrosive stricture require number of dilations as compared to anastomotic strictures.

Proton pump inhibitors in Germany: the status quo of the market size and structure

Mrs. Kate Plehhova¹, Mrs Monika Haering², Mr Joshua Wray¹, Dr Cathal Coyle¹, Dr Eduardo Ibanez³, Dr Karel Kostev⁴, Mr David Lehmann⁴, Mr. Gerhard Muller⁴, Dr. Joachim Labenz⁵

¹Reckitt, Hull, United Kingdom, ²Reckitt, Heidelberg, Germany, ³IQVIA, Madrid, Spain, ⁴IQVIA, Frankfurt am Main, Germany, ⁵Diakonie Klinikum, Jung Stiling Krankenhaus, Siegen, Germany

Background and Purpose

Prescription volume for proton pump inhibitors (PPIs) continues to remain high, despite growing literature highlighting excessive prescribing compared to guideline recommendations. The aim of this study was to evaluate the actual amount of both prescription and over-the-counter channels for PPIs in Germany.

Methods

This retrospective study used several IQVIA databases showing all prescriptions that were billed to public health and private health insurances in Germany as well as sales over the counter. Analyses were performed for the time Nov 2020–Oct 2021 and of a descriptive nature; growth figures were based on five rolling years to April 2022.

Results

In the one-year-study time period, 2.87 billion PPI pills were sold, whereby 97% were driven by prescriptions. Together, pantoprazole and omeprazole accounted for 92.5% of total PPIs, both for prescription and OTC. Most substances are sold in highest strength (e.g., 57% of pantoprazole pills), and biggest pack sizes of >90 pills (e.g., 83% of pantoprazole pills). >93% of PPI prescriptions were generated by office-based physicians, mainly general practitioners (GPs). The prescription market is quite broad (94% of GPs prescribe PPIs) with a low concentration level (48% of GPs generate 80% of prescriptions). 95 million PPI pills were sold as OTC; self-medication accounted for 96% of the OTC PPI market. The German OTC PPI market increased on average 14% p.a. (over 4Y). Though the Rx market stagnated at high level (+0.3% p.a. over 4Y), we saw a decline still in 2019 (-1.6%), turning to latest yearly growth of 2.0%. Larger packs have proven more stable over time and are recent growth driver in reimbursement in retail market.

Conclusions

The findings of this study highlight the high PPI market size in Germany (Rx driven), driven by very large packs sizes and a recent Rx rebound in prescription rates.

Endoscopic Management of Benign Esophageal Strictures at a Tertiary Center In East Africa : Cross-sectional Study from Ethiopia

Dr. Eden Bisrat¹, Dr. Amir Seid¹

¹*College of Health Sciences, Addis Ababa University, Addis Ababa , Ethiopia*

Introduction

Endoscopic interventions are primarily used in the management of benign as well as malignant esophageal strictures. However, literature in the demographic characteristics or endoscopic management outcomes is limited in the sub-Saharan African context.

Methods

The study was conducted in Tikur Anbessa hospital, the largest referral hospital in Ethiopia. Hospital records of patients who underwent endoscopic intervention for the management of benign causes of esophageal stricture were collected. Descriptive statistics were used to summarize the result, and logistic regression was used for multivariate analyses of outcome.

Result

A total of 57 patients were enrolled in the study, out of which 33(57.9%) were females and 24 (42%) were males. Their age ranges 14 to 70 with median age being 37 years. Caustic induced strictures were the commonest in 18 patients (31.6%) followed by peptic strictures in 11(19.3%), anastomotic strictures in 10 (17.5%), webs & rings in 7 (12.3%) and radiation stricture in 2 (3.5%). A total of 330 endoscopic dilation sessions were performed for the 57 patients. Commonest site of stricture was proximal 26 (45.6%) followed by distal esophagus in 14 (24.6%). The median number of dilation sessions was 5 (IQR 3-6), and the commonest modality used was balloon dilation alone (35%) followed by combined balloon and bougie dilation (20%). Full dysphagia improvement was reported in 63% of patients, while an additional 30% had some improvement. One episode of transmural perforation occurred in the 330 sessions. Combined dilation and steroid injections were significantly associated with increased complete response ($p = 0.021$), while patients referred for surgical intervention were associated with poor outcomes ($P = 0.027$).

Conclusion

Endoscopy therapy is safe and effective in managing benign esophageal stricture. Escalation of services in resource-limited setups could contribute to the betterment of outcome in sub-Saharan Africa Setting.

Who are the patients undergoing reoperation through STARR procedure ?

Prof. Aldo Bove¹, Mrs. Giulia Valeria Calabrese¹, Mrs Raluca Bordeianu¹, Mr Gino Palone¹

¹University "G. D'annunzio" Chieti-Pescara, , Italy

Background and Purpose

The S.T.A.R.R. procedure is suggested for the correction of rectal anal prolapse and obstructive defecation syndrome with rectocele and / or rectal intussusceptions. The results demonstrated a good efficacy of the method for the correction of symptoms. On the other hand, little information is available on the patients who receive the STARR as a second procedure. The purpose of the work is to verify who are these patients and why they are reoperated

Methods

A retrospective study was carried out including 226 patients undergoing STARR from January 2018 to December 2021. Twenty patients (9.2%) had undergone reoperation. Average age, sex and type of surgery were evaluated previously, along with indication of the second intervention and the elapsed time between the two interventions.

Results

Out of the 226 patients, 132 were women (65%) and 94 men (35%), mean age was 52 years.

Out of the 20 reoperative patients 11 were men (55%) and 9 were women (45%), mean age was 61 years. 6 patients had undergone stapled hemorrhoidectomy, 8 had hemorrhoidectomy, 4 had STARR and 2 other interventions for prolapse.

The second intervention, on average, was made 5.1 years after the first. The indication for surgery for 15 patients was rectal-anal prolapse with ODS and for 5 patients only rectal anal prolapse.

Conclusions

The STARR intervention is not rarely proposed as a re-intervention, both in patients undergoing stapled hemorrhoidectomy and in those operated on hemorrhoidectomy sec MilliganMorgan. A more in-depth study is probably needed to identify the predisposing conditions causing that these patients to resort to reoperation

Spectrum Of Anorectal Manometric Disorders In Patients With Constipation Using London Classification

Dr. Christian Von Muhlenbrock^{1,2}, Dr. Fernando Torres¹, Dra. Claudia Defilippi¹

¹Universidad De Chile, Santiago, Chile, ²Universidad de los Andes, Santiago, Chile

Background

Chronic Constipation (CC) Is A Common, Heterogeneous Disorder With Multiple Pathophysiological Mechanisms. Dyssynergic Defecation Affects Up To One Half Of CC Patients. Rectal Examination, High Resolution Anorectal Manometry (HR-AM) And Balloon Expulsion Test (BET) Can Help To Understand Underlying Pathophysiology. PURPOSE: To Describe The Manometric Diagnosis Using London Classification Of Anorectal Disorders (LCARD) In Patients With CC. METHODOLOGY: Retrospective Observational Study. HR-AM Performed Between January 2019 And January 2022. We Excluded Patients With History Of Colorectal Surgery And Those With Anatomic Abnormalities. For Statistical Analysis We Used X² Test Using STATA. RESULTS: 89 Patients, Median Age 45,1 Years, 74 Women (88%), With An Average Kess Score Of 18.5. Only 5/89 (5.6%) Had A Complete Normal HR-AM. Rectoanal Inhibitory Reflex Was Present In 97%; 15.7% Had Anal Hypotension With Normal Contractility, 7.8% Anal Hypotension With Hypocontractility And 4.5% With Only Hypocontractility; 43/89 Patients (48%) Had An Abnormal BET Of Whom 34/43 (79%) Had Dyssynergia And 2/43 Had Poor Propulsion. Rectal Hyposensibility Was Found In 61.8%. CONCLUSIONS: In Our Local Experience, We Observed A High Prevalence Of Major Findings In HR-AM In Patients With Chronic Constipation.

Comparison Of Rome-iii And Rome-iv Criteria In The Evaluation Of Irritable Bowel Syndrome (Ibs) Related Symptoms In Patients With Psychiatric Disorders And Healthy Subjects In South-East Hungary.

Dr. Krisztina Helle¹, Dr. Georgina Ollé¹, Dr. Lenke Bálint¹, Dr. Martin Kovács¹, Dr. László Madácsy², Dr. Magdolna Felber¹, Dr. Andras Rosztoczy¹

¹University of Szeged, Szeged, Magyarország, ²Endo-Kapszula Health Center and Endoscopy Unit, Székesfehérvár, Magyarország

Introduction

The association between psychiatric- (such as anxiety and depression) and functional gastrointestinal disorders such as IBS had been reported earlier, however it had been remained largely uninvestigated.

Therefore, the aim of our study was to collect data about the prevalence of IBS symptoms among patients with psychiatric disorders and in healthy blood donor volunteers.

Methods

Five-hundred and sixty-two (M/F: 135/427, mean age: 59 (21-88) years) with psychiatric disorders such as anxiety and/or depression and 1239 (M/F: 699/540, mean age: 39 (17-66) years) controls (healthy blood donor volunteers) were prospectively enrolled and were asked to complete a standardized questionnaire about their functional gastrointestinal symptoms and quality of life (QoL).

Results

Eighty-one (14.4 %) out of 562 patients had IBS according to Rome III criteria and 25 (4.5 %) according to Rome IV criteria. Their distribution between IBS subgroups (C, D, M, U) were 10/81, 17/81, 54/81, 0/81 and 2/25, 12/25, 11/25, 0/25 respectively. In the control group, these prevalence rates were significantly lower 94/1239 (7.6 %) and 9/1239 (0.7 %) $p < 0.0001$. Despite the predominance of females among psychiatric patients, an even higher female predominance was demonstrated in the IBS population compared to the control group ($\chi^2 = 5.653$, $p = 0.0174$). In addition, among patients with psychiatric disorders significant ($\chi^2 = 6.9397$, $p = 0.0084$) association between the presence of IBS and taking PPIs was detected.

Conclusions

The use of the Rome IV criteria reduced the prevalence of IBS in South-East Hungarian psychiatric patients, but this was significantly less pronounced, than in healthy blood donor volunteers. The female predominance of IBS in the psychiatric patients was more pronounced, compared to the controls. The higher PPI usage in patients with IBS supports the previous observation, that the prevalence of GER-related symptoms is also higher in this population.

Fecal microbiota transplantation (FMT) is highly effective treatment for irritable bowel syndrome (IBS): A randomized, placebo-controlled, double-blind study

Dr. Natsuda Aumpan¹, Dr. Bubpha Pornthisarn¹, Dr. Soonthorn Chonprasertsuk¹, Dr. Sith Siramolpiwat^{1,2}, Dr. Patommatat Bhanthumkomol¹, Dr. Pongjarat Nunanan¹, Dr. Navapan Issariyakulkarn¹, Dr. Varocha Mahachai², Dr. Ratha-korn Vilaichone^{1,2}

¹International Center of Excellence in Digestive Diseases and Gastroenterology Unit, Department of Medicine, Thammasat University, Pathumthani, Thailand, ²Chulabhorn International College of Medicine (CICM) at Thammasat University, Pathumthani, Thailand

Background

Irritable Bowel Syndrome (IBS) Is A Common Functional Bowel Disorder With Recurrent Abdominal Pain. Gut Microbial Dysbiosis Contributes To Pathogenesis Of IBS. Stool Bank Was Successfully Established In Thailand 2 Years Ago. Fecal Microbiota Transplantation (FMT) Has Provided Tentative Beneficial Results In Patients With IBS In Previous Trials. This Study Aimed To Compare Efficacy Of FMT With Placebo In IBS Patients. METHODS: Patients Aged 18-70 Years With IBS Defined By Rome IV Criteria At Thammasat University Hospital Were Enrolled Between April And November 2021. Patients Were Randomized 1:1 To Receive 50 Grams Of FMT Or Placebo Via Rectal Enema. The Primary Outcome Was Clinical Response Defined By A Decrease In IBS-Symptom Severity Score (IBS-SSS) By ≥ 50 Points At 4 Weeks After FMT.

Results

IBS Patients Were Randomized To Receive FMT (N=10) Or Placebo (N=10). The Mean Age Was 48.6 Years And 40% Of Patients Were Males. Baseline Characteristics Were Similar Between 2 Groups. Mean Baseline IBS-SSS Were Comparable Between Groups. There Was A Significant Improvement Of IBS-SSS (161.0 ± 106.1 Vs. 264.0 ± 71.7 , $P=0.020$), Overall Clinical Response (2 Weeks: 70%Vs.10%, $P=0.020$, 4 Weeks: 80%Vs.20%, $P=0.007$), Abdominal Pain Score (2 Weeks: 4.3 ± 1.3 Vs. 5.8 ± 1.4 , $P=0.025$, 4 Weeks: 2.8 ± 1.8 Vs. 5.2 ± 1.8 , $P=0.008$), And Abdominal Distension Score (4 Weeks: 3.0 ± 2.6 Vs. 5.4 ± 1.8 , $P=0.028$) After FMT Compared With Placebo. A Significant Mean Reduction In Abdominal Pain Score (-49% Vs. -19% , $P=0.045$), And Abdominal Distension Score (-53% Vs. -19% , $P=0.042$) Was Also Demonstrated At 4 Weeks After FMT. Quality Of Life Scores Significantly Improved In FMT Group (13.3 ± 8.0 Vs. 20.2 ± 5.1 , $P=0.033$). Only Minor Adverse Events Such As Mild Abdominal Pain, Nausea, And Diarrhea Were Reported And Were Not Different Between 2 Groups. No Serious Adverse Event Was Observed.

Conclusions

FMT Via Rectal Enema Improves Overall Clinical Response, IBS-SSS And Quality Of Life Scores. FMT Might Be An Alternative Effective Treatment For Patients With IBS.

Prevalence and pattern of Irritable bowel syndrome in a Nigerian subpopulation.

Dr. Chikodili Crystal Umejiaku¹, Prof Edith Okeke², Dr Pantong Darwuer², Dr David Nyam², Dr Patience Omaiye², Dr Lukman Abdulkareem¹, Dr Ojonugwa Ameh¹, Dr Austin Uhunmwangho¹

¹University Of Abuja Teaching Hospital, Gwagwalada., FCT, Nigeria, ²University of Jos, Jos, Nigeria

Background

Irritable bowel syndrome (IBS) is part of a group of chronic gastrointestinal diseases called Functional Gastrointestinal Disorders (FGIDs). It is a common functional gastrointestinal disorder that is chronic and relapsing. In IBS, there is abdominal pain associated with altered bowel habits due to a complex brain-gut interaction. Although IBS is not life threatening, patient's quality of life is affected. Reports of prevalence vary worldwide, with that of sub-Saharan Africa region ranging from 8% to 31% among apparently healthy subjects.

Aim/Purpose

To determine the prevalence and pattern of IBS among medical students and its impact on health related quality of life.

Methodology

A cross sectional descriptive study was done. Based on a simple random sampling four hundred medical students from the University of Jos participated after an ethical approval was gotten and consent sought. They were evaluated for IBS using the Rome IV diagnostic criteria and their health related quality of life (HR-QOL) was assessed with IBS QOL questionnaire.

Results And Discussion

The prevalence of IBS based on the Rome IV criteria was 12.5%. With IBS-M contributing 36%, IBS-D, IBS-C and IBS-U contributing 26%, 22% and 16% respectively. IBS has a negative impact on quality of life; IBS-M was the subtype with the worse quality of life with an 11.18 decrease in IBS-QOL score as compared to those who did not have IBS. Based on the 8 different domains on quality of life, food avoidance was the most impacted and was worse in those with IBS-D with a mean score of 57.1 ± 28.22 .

Conclusion

Based on the Rome IV diagnostic criteria, IBS is still prevalent and negatively impacts on the quality of life.

Efficacy of AI-assisted personalized microbiome modulation by diet in Irritable bowel syndrome (IBS): a multicenter randomized controlled trial

Dr. Varol Tunali¹

¹Manisa Celal Bayar University Faculty of Medicine, , Turkey

Although personalized nutritional therapies targeting gut microbiota using artificial intelligence (AI) promises a great potential, this approach has not been studied in patients with IBS. We investigated the efficacy of AI-based personalized microbiome diet in patients with IBS-Mix (M).

This is a pilot, open-labelled study. We enrolled consecutive IBS-M patients (n=25) according to Rome IV criteria. Fecal samples were obtained from all patients twice (pre- and post-intervention) and high-throughput 16S rRNA sequencing was performed. Six weeks of personalized nutrition diet (n=14) for group 1 and standard IBS diet (n=11) for group 2 were followed. AI-based diet was designed based on optimizing a personalized nutritional strategy by an algorithm regarding individual gut microbiome features.

The IBS-SSS evaluation for pre- and post-intervention exhibited significant improvement ($p<0.02$ and $p<0.001$ for the standart IBS diet and personalized nutrition groups, respectively). While the IBS-SSS evaluation changed to moderate from severe in 78% (11 out of 14) of the personalized nutrition group, no such change was observed in the standart IBS diet group. A statistically significant increase in Faecalibacterium genus was observed in the personalized nutrition group ($p=0.04$). Bacteroides and putatively probiotic genus Propionibacterium were increased in the personalized nutrition group. The change (delta) values in IBS-SSS scores (before- after) personalized nutrition and standart IBS diet groups are significantly higher in the personalized nutrition group.

AI-based personalized microbiome modulation through diet significantly improves IBS-related symptoms in patients with IBS-M. Further large-scale, randomized placebo-controlled trials with long-term follow-up (durability) are needed.

***Important Notice:** This abstract is the abstract of our pilot study. We are currently running our large-scale, multi-center clinical trial and we hope to present our findings in WCOG in December 2022.

Time to Relief of Key Abdominal and Bowel Symptoms of Irritable Bowel Syndrome with Constipation: A Post-Hoc Analysis of Randomized Controlled Trials of Linaclotide

Dr. Darren Brenner¹, Dr. Brian Lacy², Dr. Alexander Ford³, Dr. Wilmin Bartolini⁴, Dr. James Wu⁵, Dr. Elizabeth Shea⁴, Dr. Wieslaw Bochenek⁶, Dr. Ramesh Boinpally⁷, **Dr. Evan Mavrommatis⁸**, Dr. Cristina Almansa⁴

¹Northwestern University Feinberg School of Medicine, Chicago, United States, ²Mayo Clinic, Jacksonville, United States,

³University of Leeds School of Medicine, Leeds, United Kingdom, ⁴Former employee of Ironwood Pharmaceuticals, Inc.,

Boston, United States, ⁵Ironwood Pharmaceuticals, Inc., Boston, United States, ⁶Former employee of AbbVie Inc.,

Madison, United States, ⁷AbbVie Inc., Madison, United States, ⁸AbbVie Inc., North Chicago, United States

Background and Purpose

Linaclotide is approved for irritable bowel syndrome with constipation (IBS-C) in adults. Clinical trials demonstrated linaclotide's efficacy for relieving IBS-C-associated abdominal and bowel symptoms; however, time-to-treatment response is not fully understood. This post-hoc analysis examined this for abdominal pain, discomfort, and bloating, and the temporal relationship between abdominal symptoms and stool frequency responses.

Methods

Patient data were pooled from Phase 2b/3 randomized IBS-C trials comparing linaclotide 290µg with placebo. Patients met Rome II/III criteria for IBS-C and had baseline abdominal pain severity score ≥ 3 . Individual abdominal symptoms response (0-10 scale) was defined as $\geq 30\%$ improvement from baseline in weekly average. Complete spontaneous bowel movement (CSBM) response was defined as an increase of ≥ 1 CSBMs/week from baseline or achieving ≥ 3 CSBMs/week. Time to response was assessed using the Kaplan-Meier method.

Results

2350 patients (1172 placebo [mean age 44.7 years, 86.8% female]; 1178 linaclotide 290µg [mean age 44.56 years, 86.8% female]) were included. For linaclotide-treated patients, median time to achieve responder definition was 3 weeks for abdominal pain and discomfort, and 4 weeks for bloating (vs. 6, 7, and 8 weeks, respectively for placebo; $p < 0.0001$). Median time to increase of ≥ 1 CSBMs/week was 2 weeks for linaclotide vs. 4 weeks for placebo (curve separation, $p < 0.0001$). Median time to achieving ≥ 3 CSBMs/week was 4 weeks for linaclotide (not reached by placebo-treated patients during treatment; $p < 0.0001$).

Conclusions

These results suggest $>50\%$ of patients with IBS-C, after initiating linaclotide, will experience $\geq 30\%$ decrease in abdominal pain and discomfort severity within 3 weeks, and bloating within 4 weeks. Median time to improved CSBM frequency preceded abdominal responses, although achievement of "normal" CSBM frequency lagged slightly behind abdominal pain and discomfort responses. Linaclotide significantly improves abdominal and bowel symptoms vs. placebo, with most responding within ≤ 4 weeks of treatment.

Writing assistance by Complete HealthVizion.

Clinical stigmas of irritable bowel syndrome associated with obesity and overweight

Г.-Н. Maksim Fedorin¹, Ms. Maria Livzan¹, Ms. Olga Gaus¹

¹*Omsk State Medical University, Omsk, Russian Federation*

Background and Purpose

The prevalence of obesity and functional pathologies of the colon, is taking on the character of a pandemic, which creates conditions for the formation of a special type of irritable bowel syndrome (IBS). Adipose tissue has a significant impact on the course of IBS through the release of hormonally active molecules, pro-inflammatory cytokines, and modulation of the intestinal microbiota. Identification of clinical stigmas and assessment of their relationship with pathogenetic links in this cohort of patients is of particular interest. The aim of the study was to highlight the clinical stigmas of IBS in people with obesity and overweight.

Methodology

An open cohort cross-sectional study was conducted with the inclusion of 100 patients (68 females and 32 males, mean age 30.63 ± 6.37 years) diagnosed with IBS. 50 patients with body mass index (BMI) ≥ 25 kg/m² were included in the main group, 50 patients with BMI < 25 kg/m² were included in the comparison group. IBS symptoms were assessed on a 10-point scale. Assessment of the severity of anxiety and depression, quality of life, eating behavior was carried out using questionnaires HADS, VSI, IBS-QoL, SF-36, WHO CINDI program questionnaire.

Results and Discussions

The main group is characterized by:

1. More severe course of the disease. At the same time, the severity of the course of IBS is associated with an increase in BMI;
2. More frequent formation of a mixed variant of stool disorders and a tendency to constipation;
3. More common clinical anxiety and depression;
4. More pronounced syndrome of abdominal pain;
5. Lower quality of life;
6. Higher appetite, greater consumption of fruits, sweets, fatty and starchy foods.

Conclusions

The clinical stigmas of IBS associated with obesity and overweight have been identified, which creates the need for the development and implementation of individualized approaches to the management of such patients.

“Usefulness Of Magnified Chromoendoscopy In Colonic Polyps As A Predictor Of Colorectal Cancer According To Histopathology Guayaquil-Ecuador”

Dr. Elizabeth Maizury Garzón Mayorga¹, Dr. Rubén Muñoz Cedeño¹, Dra. Karla Paulette Ruiz Conforme¹, Dr. Manuel Guaranda Maya²

¹Hospital Abel Gilbert Pontón, Guayaquil, Ecuador, ²Hospital Abel Gilbert Pontón, Guayaquil, Ecuador, ³Hospital Abel Gilbert Pontón, Guayaquil, Ecuador, ⁴Hospital Naval, Guayaquil, Ecuador

Background and Purpose

Colorectal cancer (CCR) has been on the rise. In Ecuador there is no record on the usefulness of current endoscopic techniques, the objective was: To determine the usefulness of magnified chromoendoscopy in colonic polyps as predictors of CCR according to histopathology at Guayaquil Hospital.

Methodology

Analytical, correlational, transversal, retrospective, non-experimental relational level. Of 465 admitted patients who required colonoscopies between November 1, 2019, and November 1, 2020, 210 patients who had polyps and met criteria were included. The information was obtained through medical records and endoscopic reports. FUJIFILM Eluxeo EC720RL-EC530WL3 colonoscopes with Zoom were used, the endoscopic characteristics of the polyps were determined by magnification chromoendoscopy using JNET classification, all polyps were removed and correlated with their histopathology. Statistics were performed with SPSS 23 program.

Results and Discussions

For the analysis of information was used: Chi square test, confidence index of 99% an error rate of 1%. Data obtained showed incidence of 53.76% over 50 years, the proportionality was 2.8: 1 in men. Of 340 polyps analyzed, the average size was 1.6 mm, being frequent in the rectum 27.65%, ascending colon 23.82%, sigmoid 20%, descending 15.88% and transverse 12.65%. Histology showed that 54.41% were hyperplastic, 0.88% sessile serrated, 17.94% tubular adenoma, 3.24% villous adenoma, 6.76% tubule villous, 6.18% carcinoma. The JNET classification obtained: JNET 1 =55%, JNET 2A=19.71%, JNET 2B=8.24%, JNET 3=17.06%. The sensitivity was 90.91% and specificity 99.46%, the positive predictive values were = 98.03% and the negative = 97.35. Chi square obtained an asymptotic significance of 0.001 showing a relationship between the variables.

Conclusions

Magnified chromoendoscopy is useful as a predictor of CCR according to histopathology when applying the JNET classification. The group with the highest risk was the male, between 50 -70 years, which confirms the CCR screening before this age.

Impact of the COVID-19 pandemic on the gastrointestinal procedures in South Korea: a population-based study

Dr. Jae Myung Cha¹, Dr. Youn Kyung Kim¹

¹*Kyung Hee University Hospital, Seoul, South Korea*

Background and Purpose

The COVID-19 pandemic may have a negative effect on the gastrointestinal (GI) procedures, but, there is little data on this issue. This study aims to evaluate the impact of COVID-19 pandemic on the performance of GI procedures in South Korea.

Methodology

We conducted a population-based study for GI procedure claims on the basis of the Health Insurance Review and Assessment (HIRA) Service database from 2019 to 2021. The number of patients who underwent esophagogastroduodenoscopy (EGD), colonoscopy, endoscopic retrograde cholangiopancreatography (ERCP), and abdominal ultrasonography (US) in 2020 and 2021 were compared with those in 2019.

Results and Discussions

The annual volume of EGD and colonoscopy reduced by 6.3% and 6.9%, respectively, in 2020 and 2021 compared with those in 2019. But, the annual volume of ERCP and abdominal US increased by 1.0% and 2.9%, respectively, in 2020 and 2021 compared with those in 2019. In March 2020, the monthly number of EGD and colonoscopy was reduced by 28.8% and 43.8%, respectively, as compared to those in March, 2019. In addition, the monthly number of ERCP and abdominal US was also reduced by 5.1% and 5.1%, in March 2020 as compared to those in March, 2019. In March 2021, the monthly number of EGD and colonoscopy was increased by 3.6% and 1.4%, respectively, as compared to those in March, 2019. In addition, the monthly number of ERCP and abdominal US was also reduced by 11.4% and 11.4%, in March 2020 as compared to those in March, 2019.

Conclusions

The COVID-19 pandemic has led to a transient reduction in the number of patient who underwent GI procedures, however, the magnitude of reduction was marked for colonoscopy than other GI procedures. In addition, the reduced procedure volume was recovered slowly for colonoscopy than other GI procedures.

Short-term Outcomes Of Endoscopic Submucosal Dissection Service Program In The United Arab Emirates: A Single-Center Experience

Dr. Ammar Kheir¹

¹*Cleveland Clinic Abu Dhabi, Digestive Disease Institute, Abu Dhabi, United Arab Emirates*

Background and Purpose

Endoscopic submucosal dissection (ESD) is a complex advanced endoscopic resection technique. Initially developed in Japan more than 2 decades ago as minimally-invasive curative treatment of early gastric cancer without predicted risk for regional lymph node metastasis. ESD is well-established and widely available in the East, and more recently in the west. An ESD service program was started in the United Arab Emirates (UAE), at a single-center end of 2019. We report our short-term experience.

Methods

Retrospective review of all ESD cases between November 2019 and July 2021 at a single-center.

Results

Twenty (15 UAE nationals and 5 ex-pats) ESDs were performed by a single ESD-trained endoscopist. ESD anatomic location included 11 gastric, 7 rectal, 1 esophageal, and 1 duodenal. The mean age was 56.6 years (range 32-78), with 12 males (60%) and 8 females (40%). ESD histology included 3 gastric adenocarcinoma, 2 gastric high-grade dysplasia, 4 gastric neuroendocrine tumors, 5 rectal neuroendocrine tumors, 1 esophageal squamous cell carcinoma, 1 rectal submucosally invasive carcinoma, 1 duodenal neuroendocrine tumor, 1 gastric atypical lipoma, 1 rectal atypical lipoma, and 1 gastric symptomatic hyperplastic polyp. Enbloc resection was achieved in all cases and R0 histology was 95%. There were no perforations, clinically significant delayed ESD complications, and no 30-days mortality. Most of the rectal ESD cases were discharged on the same day, but gastric, duodenal and esophageal ESDs they were admitted to receive intravenous proton pump inhibitors, and the median length of stay was 1 day.

Conclusions

We report the first establishment of an ESD service program in the UAE with an excellent clinical outcomes. As the program grows, we anticipate increased volume and lesion complexity challenges.

Outcome of Vigorous Fluid Hydration in Prevention of Post- ERCP Pancreatitis in selected ERCP Centre Khartoum, Sudan

Dr Safa Elshiekh¹, Dr. Omer Kheir¹, Dr Abdelmounem Abdo¹

¹*National Centre For Gastrointestinal And Liver Diseases (NCGLD), WGO, Khartoum, Sudan*

Background and Purpose

Post-endoscopic retrograde cholangiopancreatography (ERCP) is broadly used for treatment of diseases related to the bile and pancreatic ducts.

Acute pancreatitis remains the most frequent complication of ERCP. Data demonstrate that vigorous periprocedural hydration can prevent post-ERCP pancreatitis (PEP).

Objective: The main aim was to study the outcome of vigorous fluid hydration in the prevention of post ERCP pancreatitis.

Methods

In this cross-sectional study, 105 patients attending ERCP clinics at the Ibn Sina hospital, Khartoum, Sudan, were recruited for this study. Type of fluid administered include normal saline or lactated ringer or dextrose 5% and dextrose 5%with saline were given. Patients were aggressively hydrated with fluid 20ml/kg/h at the start of the ERCP, followed by 3ml/kg /hr for 12 hours, total of 3.3 L. Cotton criteria was used to measure the outcome.

Results

The main indications for ERCP were choledocholithiasis (54%), followed by malignancy (29%), common bile duct stricture (14%) and stent removal (3%). Eighty four percent spent less than 30 minutes on the ERCP procedure. The amount of fluid administered in 12 hours was 3360 ml. The type of fluid was as follows (58.1%) received 0.9% saline, (17.1%) received dextrose 5% with saline, lactated ringer's solution (14.3%), and dextrose 5% (10.5%). Most of the participants (97.1%) did not show any evidence of pancreatitis after 12 hours of the ERCP, two patients had mild PEP and one patient had severe PEP. All participants did not show any evidence of fluid overload.

Conclusion

In the absence of contraindications to fluid administration, vigorous periprocedural hydration seems to be safe and effective in reducing the incidence and severity of post-ERCP pancreatitis in both average-risk and high-risk patients.

Keywords

Endoscopic retrograde cholangiopancreatography, Post-ERCP pancreatitis, Prevention.

Tapeworm on capsule endoscopy

Dr. Deepa Thottaparambil Denesh¹, Dr Denesh Gopalan, Dr Sreekanth Sukumaran

¹National Health Services, Leeds, United Kingdom

Approximately 45 to 60 million people around the world are thought to be infected with *Taenia Saginata* (Beef Tapeworm) by ingesting raw or undercooked infected meat, commonly in east Africa, Bali, Tibet and endemic to the middle east and parts of Europe.

Adult tapeworms are known to survive for years in the small intestine. Here, we look at a case of abdominal pain that was a result of a tapeworm infection which was found on capsule endoscopy.

A 32 year old gentleman of middle eastern descent was admitted with abdominal pain and bloating. 6 months ago, he tested positive for *H Pylori* and treated effectively with triple therapy. All blood tests, except an eosinophil count of 12.5, stool occult blood and an ultrasound abdomen were unremarkable. An endoscopy showed grade A oesophagitis with a negative CLO test for *H.Pylori*. He was started on PPIs, which relieved his symptoms. The patient noted worms in his faeces and was given a dose of Albendazole which relieved his symptoms.

Our patient was asymptomatic for 2 months following which he presented with abdominal pain. An acute abdomen was ruled out on CT. He refused a colonoscopy, however consented to a capsule endoscopy which revealed typical strobila of *Taenia* species with proglottids within the small bowel lumen. The diagnosis of *Taenia Saginata* (Beef tapeworm) was considered as the patient does not consume pork due to religious reasons. He was treated successfully with a single dose of Praziquantel. He was discharged with advice about the consumption of undercooked meat and contaminated food.

In this scenario, a tapeworm infection presented atypically in a severe fashion and was identified on an investigation, that would not be routinely indicated had the patient not withdrawn consent for an invasive one. However, once it was identified, it was treated easily with Praziquante

Real-world effectiveness and safety of the 1L polyethylene glycol (PEG) + ascorbic acid (ASC) bowel preparation for colonoscopy in a large cohort of patients in Spain.

Dr. Vicente Lorenzo-Zuñiga¹, Dr. Miguel Ángel Pantaleón², Dr. David Carral-Martínez³, Dr. Fernando Sábado⁴, Dra. Elena Perez-Arellano⁵, Dr. Blas Jose Gómez Rodríguez⁶, Dr. Antonio López Cano⁷, Dr. Salvador Machlab⁸, Dr. José Miguel Esteban Lopez-Jamar⁹, Dra. Elena Velasco⁹, Dr. Sarbelio Rodríguez¹⁰, Dr. Jose Ignacio Peinado¹¹, Dr. Carmen Turbi Disla¹¹

¹Hospital HM Sant Jordi, Barcelona, Spain, ²Hospital del Mar, Barcelona, Spain, ³Hospital San Rafael, A Coruña, Spain, ⁴Consorcio Hospitalario General de Castellón, Valencia, Spain, ⁵Hospital La Zarzuela, Madrid, Spain, ⁶Hospital Quirón Salud Sagrado Corazón, Sevilla, Spain, ⁷Hospital Doctor López Cano, Cádiz, Spain, ⁸Consorci Corporació Sanitària Parc Taulí, Sabadell, Spain, ⁹Hospital Universitario Clínico San Carlos, Madrid, Spain, ¹⁰Hospital Ruber Juan Bravo. European University of Madrid, Madrid, Spain, ¹¹Medical Affairs Department, Norgine, Madrid, Spain

Background and Purpose

The effectiveness of bowel cleansing is essential for a quality colonoscopy since it improves diagnostic accuracy. A subgroup analysis of an observational, multi-centre, retrospective study was carried out to assess the effectiveness and safety of 1L-PEG+ASC bowel preparation in the Spanish population.

Aims & Methods

Outpatients aged > 18 years who underwent a screening, surveillance, or diagnostic colonoscopy between July 2019 and September 2021 in 10 centers, after an evening/morning (split-dose) or same-day regimen with 1 L-PEG+ASC were included. Bowel cleansing was assessed using the Boston Bowel Preparation Scale (BBPS). Adequate cleansing success was defined as a total BBPS ≥ 6 with all segmental scores BBPS ≥ 2 and BBPS 3 defined high-quality cleansing of the right colon. Safety was assessed based on registered adverse events (AEs).

Results

A total of 13,169 patients were enrolled in the study, of which 7,160 were included in this analysis. 48.3% male and 51.7% female, mean age of 58.0 ± 13.7 years. Indication for colonoscopy was screening for CRC (38.9%), diagnostic (34.8%), follow up (24.6%) or other (1.7%). Preparation was either as a same-day dose (46.3%) or a split-dose (53.7%) regimen. Colonoscopy was completed satisfactorily for 97.2% of patients. Incomplete colonoscopy was found in 2.8 % of patients, 0.3% due poor preparation. Overall cleansing success was achieved in 95.6 % (95%CI: 95.1-96.0). High-quality cleansing of the right colon was achieved in 65.9% (95%CI: 64.9-67.1). The incidence of AEs was 3.3% (95%CI: 2.0-2.5) with 97% of patient not reporting any AEs. Main AEs were nausea (1.2%), vomiting (0.8%) and abdominal pain (0.2%).

Conclusion

Results from this analysis confirm the high cleansing effectiveness of 1L PEG+ASC, achieving the ESGE target standard of $\geq 95\%$ rate of adequate bowel cleansing in overall colon and high-quality cleansing of the right colon in the real-world settings.

Video Capsule Endoscopy In Sub-Saharan Africa : Experience from Nairobi, Kenya

Dr. Pascal Werimo^{1,2}, Dr. Gloria Mugo¹, Dr. Emmanuel Benghe², Dr. Eric Murunga¹

¹Gastro and Liver Centre, Nairobi, Kenya, ²Aga Khan University Medical College East Africa, Nairobi, Kenya

Background and Purpose

Video capsule endoscopy (VCE), a method to evaluate the small bowel, is scarce in Africa. The indication for VCE is increasing beyond obscure gastrointestinal bleed. Infectious diseases predominate in the region but prevalence of inflammatory bowel disease and malignancies is rising. The objective was to document an experience of VCE in Sub-Saharan Africa.

Methodology

We performed a retrospective study at a center in Nairobi, Kenya. We reviewed demographics of study population and recorded the indications, prior investigations, findings and complications of VCE. Differences between the subgroups of the study were analyzed with Chi-square and Fisher's exact tests as appropriate

Results and Discussion

A total 72 patients underwent VCE using Capsocam™ and the PillCam™ SB3 capsule systems in the period of January 2017 – April 2022. The mean age was 59.1 years (range 15 – 91) and males constituted 61.7%. Most patients (n= 70, 97.9%) had an upper and lower endoscopy prior to VCE. Obscure gastrointestinal bleed (GIB) was the most common indication with 51.4% (n=37) of participants (occult, n=17, 20.8%; overt, n = 20, 33.3%). Other indications were anemia (15.5%), abdominal pain (25.4%), altered bowel habits (23.9%), weight loss (9.9%) and suspected Crohn's disease (7.0%). Complete examination was in 90.2 % and diagnostic yield was 77.1%. Frequency of findings was angiodysplasia in 14 %, duodenitis in 10.7%; mass/polyps in 8.9%. Intestinal tuberculosis and helminthes accounted for 7.1 % and 2.8%, respectively. Angiodysplasia was the most common cause of GIB, accounting for 35.3% and 35.0% in occult and overt bleeding, respectively. Retention of the capsule occurred in 2.8% (n= 2).

Conclusions

The study of VCE in Sub-Saharan Africa reveals similarities in indications and preceding work up in comparison with previous reports. Infectious causes of GIB are a peculiar finding in the study.

Contribution of colonoscopy in the etiological assessment of deep abdominal adenopathies

Dr. ASMAA EL AZHARI¹, Dr. Nabila EL GASMI¹, Pr Fz EL RHAOUSSI¹, Pr Mohamed TAHIRI¹, Pr Fouad HADDAD¹, Pr Wafaa HLIWA¹, Pr Ahmed BELLABAH¹, Pr Wafaa BADRE¹

¹*Hepato-gastro-enterology Department, Ibn Rochd University Hospital, Casablanca, Morocco*

Introduction

Deep abdominal adenopathies rarely give specific digestive symptoms, they are often detected during radiological examinations: abdominal ultrasound or abdominal CT scan.

They can be the expression of different infectious pathologies, inflammatory or neoplastic.

The objective of our work: defining the contribution of colonoscopy in the etiological assessment of deep abdominal adenopathies

Methodology

This is a retrospective descriptive study, performed in the gastroenterology department of Ibn Rochd University Hospital of Casablanca, including 49 patients who underwent colonoscopy for etiological assessment of deep abdominal adenopathies,

The study took over a 3-year period from January 2018 to December 2020.

Results

The average age of our patients was 45 years with extremes ranging from 16 to 76 years, with a female predominance (sex ratio M/F:0.63).

Two patients (4%) had a history of tuberculosis, and 10 patients (20%) had a recent tuberculosis infection. Celiac disease was noted in 2 patients (4%), dysthyroidism in 2 patients (4%), and systemic lupus erythematosus in one patient (2%).

Colonoscopy did not reveal any abnormality in 69% of cases. It was in favor of a neoplastic process in 10% of cases. An erythematous and ulcerated aspect of the last ileal loop was noted in 8% of cases, an aspect of colonic extrinsic compression in 4% of cases, colonic diverticulosis in 4% of cases, and colonic polyps in 4% of cases.

In our series, colonoscopy allowed the etiological diagnosis of deep abdominal adenopathies in 7 patients (14%), 5 patients had colonic adenocarcinoma, and 2 patients had digestive tuberculosis.

Surgical exploration for adenopathies biopsy was necessary in 42 patients (86%).

Conclusion

Although the discovery of deep abdominal adenopathies usually requires surgical biopsy, colonoscopy, which remains a less invasive examination, has a place in this diagnostic process. In our work, colonoscopy allowed us to make the etiological diagnosis in 14% of cases.

Comparison of the premedication Simethicone versus N-acetylcysteine plus Simethicone in the visualization of the gastric mucosa, in the province of Ocaña Colombia, from January to June 2021

Dr. Henry Royero¹, Nurse Wendy Restrepo¹, Nurse Karen Sanguino

¹Hospital, Ocaña, Ocaña, Colombia

Objective

To determine the efficacy of Simethicone (SIM) as a single antifoaming agent compared to the combination SIM plus N-acetylcysteine (NAC) in the visualization of the gastric mucosa during outpatient esophagogastroduodenoscopy (EGD), from January to June 2021. Materials and Methods Clinical trial, where the patients and the endoscopist assessing the visualization of the gastric mucosa were blinded regarding the drugs, group A received Simethicone (Dimethylpolysiloxane), 133 mg (2 cc) plus warm water 100 cc before the EGD. Group B received NAC 4%, 400 mg (10 cc) plus Simethicone, 133 mg (2 cc) and warm water 100 cc. Both preparations were administered 20 minutes before the procedure. The visualization of the mucosa in each examined segment (antrum, lower body, upper body and gastric fundus) was classified according to the modified Kuo by Chang scale. For numerical variables, the Kolmogorov test was used and if there was no normality for the comparison of the groups, the Mann-Whitney test Results 260 patients (120 in each group) met the inclusion criteria, with an average age of 49.66 years, SD (+/- 0.65). There were no statistically significant differences between groups A and B in the total score of visualization of the gastric mucosa ($p=0.549$), in terms of the scores by segments studied antrum ($p=0.727$), lower body ($p=0.929$), upper body ($p=0.730$) and fornix ($p=0.072$) there were no differences either.

Conclusions The administration of a Simethicone solution 20 minutes prior to the EGD provides similar results to the combination of Simethicone plus N-Acetylcysteine in the visualization of the gastric mucosa, reducing costs when NAC is not added as well, both drugs are considered safe since that there were no complications from his prescriptions.

Endoscopic Removal of Rectal Foreign body using Obstetric vacuum extractor ...A case report

Dr. Muhammad Aasim Khan¹, Dr Arshad Khan

¹*Gajju Khan Medical College Swabi ,kpk Pakistan, Swabi, Pakistan*

A 45 years old male patient presented to accident and emergency department with one day history of abdominal pain and distension after foreign body insertion into rectum. Foreign body did not pass spontaneously and even after self-attempts to remove it through anus. The patient has mild abdominal pain however he was not complaining of rectal pain or bleeding. After passing intravenous line and analgesics, Abdominal Xray confirmed a bottle shape foreign body in proximal rectum having length and diameter with no evidence of bowel perforation. Sigmoidoscopy visualized distal part of bottle at rectosigmoid just behind the second rectal fold. Different methods using endoscopic accessories failed to evacuate the foreign body. Finally baby vacuum extractor with suction is used under endoscopic vision for successful removal of foreign body without any complication

One-man method vs. two-man method for colonoscope insertion: A randomized controlled trial

Prof. Jong Jin Hyun¹, Prof. Jung Wan Choe¹, Prof. Dongwoo Kim¹, Prof. Seung Young Kim¹, Prof. Sung Woo Jung¹, Prof. Young Kul Jung¹, Prof. Ja Seol Koo¹, Prof. Hyung Joon Yim¹

¹*Korea University Ansan Hospital, Ansan, South Korea*

Background and Purpose

The one-man method for colonoscope insertion is recommended by professional societies and is regarded as the standard practice. However, two-man method has shown several advantages over one-man method. The aim of this study is to evaluate the performance of two-man compared to one-man method.

Methodology

In this prospective study, consecutive individuals undergoing outpatient colonoscopy were randomized to undergo colonoscopy by either one-man or two-man method. Colonoscopy examinations were performed by three senior and three junior endoscopists. The primary end-point was adenoma detection rate. Secondary outcome measures included cecal intubation rate, cecal insertion time, total colonoscopy time, procedure related complications, mean doses of sedatives, and procedure tolerability as assessed by either the endoscopy assistant or the patient.

Results

204 subjects (117 males, mean age 52.4 [17-87]) were randomized to one-man (n= 102) or two-man method (n=102). The adenoma detection rate was 40.2% in one-man method and 42.2% in two-man method. (p=0.82). No significant differences between the two groups were found regarding cecal intubation rate (98/102 vs 98/102), cecal insertion time (411sec vs 381sec), total examination time (1426sec vs 1296sec), and sedative dose (midazolam; 3.5mg vs 3.2mg, propofol; 88mg vs 79.3mg). However, individuals undergoing two-man method had lower pain score than one-man method (3.29 vs 2.15, p= 0.03; 0 for painless to 10 for maximal pain). Endoscopists' fatigue measured using FACIT-F was significantly lower in two-man method group.

Conclusions

Two-man method for colonoscopy showed similar technical and clinical outcomes compared to one-man method, but resulted in better patient tolerance and reduction in endoscopists' fatigue.

Metastatic Malignant Melanoma of the Gastrointestinal Tract: A Rare Case and Review of Current Literature

Dr. Julian Iñaki Garcia¹

¹*De La Salle University Medical Center, Dasmarias, Philippines*

Malignant melanoma is the most serious type of skin cancer and it develops from pigment-producing cells known as melanocytes. This neoplasm has a five-year survival rate between 3 to 19% depending on the location and number of metastases. Melanomas typically occur in the skin but may occur in the mouth, intestines or eyes, and rarely, inside the body, such as nose or throat. A case of a 67-year-old male who presented with a burning sensation in the epigastric area and complained of bloating one month prior to admission. Patient was diagnosed with malignant melanoma with lymph node involvement and pulmonary metastasis 7 months prior to his symptoms. Patient had several episodes of nausea, vomiting and bloatedness; thus, he was referred to the gastroenterology service for further work-up and management. There was no associated weight loss or hematochezia. His family history for cancers was unremarkable. Patient had completed 13 episodes of radiotherapy and this was associated with epigastric burning pain and bloatedness.

In the interim, he had an esophago gastroduodenoscopy which showed multiple flat lesions seen at the body, antrum and at the duodenum. Biopsy samples were taken and they showed epithelial cells disposed singly and in nests invading the gastric mucosa. These biopsy findings were consistent with malignant melanoma. Besides melanin nodules, only erosive gastritis with no ulcers was noted. During this admission, the patient was given a proton pump inhibitor, calcium carbonate and simethicone to address underlying gastrointestinal symptoms, which prompted improvement of the epigastric burning pain, bloatedness and nausea. Immunotherapy was initiated with pembrolizumab which the patient tolerated without any adverse reactions.

Unfortunately, the patient had also been diagnosed with Hospital-Acquired Pneumonia (HAP) with pulmonary effusion noted in both lungs. Chest tube thoracotomy was done and antibiotics were shifted. The patient improved and was subsequently, discharged.

Artificial intelligence performance in colonoscopy outside clinical trials: initial experience in "real practice"

Dr. toufic Kachaamy¹, RN Elaine Jewett¹, NP Krista Gomez¹, RN Tess Magat¹, MD Yossef Soliman¹

¹*Cancer Treatment Centers of America, phoenix, United States*

Colon cancer screening is an important strategy to decrease morbidity and mortality from colon cancer. Screening can be done via noninvasive tests such as stool DNA testing or fecal immunohistochemical testing or via colonoscopy which is more invasive. An abnormal noninvasive should lead to a colonoscopy which is needed to detect cancer or prevent it via removing polyps which are the precursors of cancer. One limitation of colonoscopy is missing polyps which is one of the causes of interval colon cancer, cancer diagnosed in short interval before a surveillance colonoscopy. Subtle polyps and endoscopist variable performance are known to contribute to missed polyps. Recently Artificial intelligence (AI) technology was introduced to help decrease polyp missed rate via highlighting to the endoscopist polyps which a visual and auditory signal. It has been shown in randomized controlled trial to improve adenoma detection rate by 14% to 54.8% . There is currently no data available on AI performance outside of clinical trials. As early adopters of the technology we are presenting our Initial experience with AI in the real world.

Methods

All AI enhanced colonoscopies done for screening, surveillance or as a follow-up after positive stool testing was analyzed.

Results

110 colonoscopies were identified, (94 screening, 9 surveillance and 7 positive fecal DNA evaluation). The ADR was 52% compared to 54% in the published RCT.

For average risk screening colonoscopy from our own data. Using AI, our ADR was 54% and SSA detection was 19% compared to 52% and 8% in the year before without AI enhancement. Withdrawal times were not adversely affected.

Conclusion

Are initial "real life" experience from early artificial intelligence adoption for polyp detection enhancement was consistent with the published AI. In addition, we experienced a significant increase in sessile serrated adenoma detection rate which needs to be further investigated.

Effects of Computer-aided detection (CAdE) system on Difficult polyp detection according to Colonoscopy experience

Dr. Jooyoung Lee¹, Mr Woo Sang Cho², Dr. Jung Ho Bae¹

¹Department of Internal Medicine and Healthcare Research Institute, Healthcare System Gangnam Center, Seoul National University Hospital, Seoul, South Korea, ²Department of Biomedical Engineering, Seoul National University College of Medicine, Seoul, South Korea

Background and Purpose

We aimed to investigate the effect of CAdE system on difficult polyp such as sessile serrated lesions (SSLs) detection according to physician's colonoscopy experience.

Methods

This study consisted of 4 stages: (1) developed CAdE system for detection of colorectal polyps, (2) developed ex-vivo test module using CAdE system for polyp detection (3) conducted a polyp detection performance assessment and comparison with CAdE system, and (4) performed a polyp detection performance with knowledge of the CAdE-processed results. A total of 18 physicians participated in the ex-vivo test and they were composed of 3 groups according to colonoscopy experience (6 nurses, 6 trainees, 6 experts). The ex-vivo test set consisted of 300 images including 219 colorectal polyps with high difficulty for detection and 81 false positive images. Changes in sensitivity and accuracy with and without CAdE assistance were evaluated and the difference of these values between the three groups of participating physicians were compared using McNemar's test by SAS statistics.

Results

The accuracy for polyp detection of our CAdE system was 79.0% with a sensitivity of 78.9%. The overall accuracy for polyp detection was significantly increased with the use of CAdE assistance in all three groups (69.7% vs 79.5%, $p=0.002$) and the impact of CAdE assistance was significantly prominent in nurse group. For SSLs, sensitivity per lesion was also significantly increased with CAdE assistance (49.5% vs 66.5%, $p<0.001$).

Conclusions

The overall accuracy for polyp detection was significantly increased with CAdE system assistance regardless of clinical experience. The overall sensitivity for SSL detection was also significantly increased with CAdE system assistance.

Gender bias in the evaluation of polypectomy technique of gastroenterology fellows.

Dr. Hanan Alrammah¹, Dr. Turki AlAmeel¹, Dr. Majid Alshafai², Dr. Mohammed Alaskar¹, Dr. Dimah Alaskar¹

¹King Fahad Specialist Hospital Dammam, Dhahran, Saudi Arabia, ²King Abdulaziz University, Jeddah, Saudi Arabia

Introduction

The majority of physicians in gastroenterology are men. Female physicians constitute less than 20% [1] . As more women pursue careers in surgical fields, gender bias has been shown to negatively impact the evaluation of their technical skills [2] . We aimed to assess whether gender bias existed in assessing endoscopic skills of fellows performing polypectomy.

Methodology

This was a cross sectional study of gastroenterology consultants in Saudi Arabia. Participants were shown a video of endoscopic polypectomy through a web based link. Participants were randomly assigned to either evaluate a hypothetical male or female fellow; both groups were shown the same video. The fellow's gender and level of training were included in the scenario. Evaluation was done using the standardised method known as the Direct Observation of Polypectomy skills (DOPyS) [3]. A scoring of 3 or more is considered desirable.

Result

Seventy six evaluators participated in the study. The majority (88.15%) were men. Three quarters (76%) were involved in training fellows in their practice. 47% were asked to evaluate female fellows. The overall median score was 3. Although the polypectomy video was the same, participants were more likely to give the higher score of 4 to the hypothetical male fellows than female fellows (7 vs 3) (P=0.29). The evaluator's gender or age had no impact on the way they evaluated trainees. Endoscopists performing more than 30 procedures per week were more likely to score trainees of both genders lower compared to those who performed less procedures (P=0.027).

Conclusion

Female trainees had numerically lower scores while performing the same procedure compared to their male counterparts. Although this was not statistically significant, it may have been related to the relatively small sample size. More studies are required to identify and address gender bias in gastroenterology.

The Method Of "Cold" Loop Resection With Preliminary Hydro-Preparation For The Removal Of Epithelial Neoplasms Of The Colon Through An Endoscope.

Доктор Iuliia Sigaeva¹, Mr Evgeny Fedorov, Mr Evgeny Tokarenko

¹*Medical Center Sogaz, Gelendgik, Russian Federation*

The purpose

To analyze the safety and effectiveness of using the method of "cold" loop resection with preliminary hydrotreating when removing flat neoplasms with a diameter of 5 to 19 mm.

Material and methods

The number of complications and relapses of neoplasms after endoscopic removal of 122 epithelial neoplasms of the colon in 98 patients was assessed by cold loop resection with preliminary hydrotreating of flat neoplasms with a diameter of 5 to 19 mm.

Results

Neoplasms with a diameter of 5 to 9 mm in 100% of cases were removed in a single block, with a diameter of 9 to 14 mm in 28/30 (93.33%) cases, with a diameter of 15 to 19 mm in 12/38 (31.57%) cases. Cases in which residual neoplasm tissue was detected after resection were observed in the group with neoplasms from 15 to 19 mm, and amounted to 8/38 (21.05%). According to the results of pathoanatomic examination of the removed material, SSA was detected in 28 cases, TSA, MVHP in 48 cases, GCHP in 5 cases, and tubular adenoma with mild dysplasia was detected in 32 cases. There were no cases of delayed bleeding. There were no cases of perforation of the intestinal wall, both at the time of resection and in the delayed period. No local recurrence was detected in the groups of patients with neoplasm diameters of 5-9 and 10-14 mm. One case of local relapse was detected in a group of patients with a neoplasm diameter from 15 to 19 mm (1/38. 2.63%).

Conclusions

"Cold" endoscopic loop resection of epithelial neoplasms of the colon with preliminary hydrotreating in the submucosal layer is a safe and effective method of removing flat epithelial neoplasms of the colon from 5 to 19 mm.

Shifting upper gastrointestinal disease prevalence from predominantly peptic ulcer disease to portal hypertension and malignancies over the last two decades in Tikur Anbessa Specialized Hospital (TASH), Addis Ababa ,Ethiopia

Dr. Guda Roro¹

¹Addis Ababa University College Of Health Sciences, Addis Ababa, Ethiopia

Background

Disease prevalence changes over time due to different reasons including change in exposures to risk factors. Knowledge about such changes is important in planning for prevention, diagnostic and therapeutic interventions. TASH is one of the few hospitals in Ethiopia with Gastrointestinal endoscopy services. It receives referrals from all corners of the country. In 2004 findings of 10,000 endoscopies performed in the institution during 1979 to 1994 was published. PUD was by far the most common finding. Recent data from the country revealed that Ethiopia is an intermediate prevalence country for viral hepatitis and 50% of the districts are endemic for schistosomiasis. These diseases are risk factors for portal hypertension. On the other hand, H.pylori testing and treatment is widely practiced. The purpose of this study was to analyze current findings and compare the results with the previous study.

Methodology

The endoscopy unit has established a computer database in 2015. Endoscopic diagnosis of all patients is stored on the database. The endoscopic diagnosis of all upper GI endoscopy procedures with percentage of each disease was generated in a table. Then the percentage changes were calculated compared to the findings published in 2004.

Results

During the period from 2015 to June 2022, a total of 6091 patients were examined, 3536(58.1%) male and 2555(41.9%) female. The most common diagnosis 1321(21.7%) was portal hypertension/varices, followed by gastropathy 13.6%, esophageal masses 11.7% , esophageal strictures 9.5% and gastric masses 7.4%. The percentage increments for these diseases compared to the previous study are 12.2, 6.9, 10.8, 9.2 and 4.7% respectively. On the contrary, ulcer diseases constituted only 6.8% with -37.2% decrease.

Conclusions

Dramatic increase in the proportions of portal hypertension, esophageal and gastric masses (mostly malignant) and esophageal strictures is noted, while ulcer diseases has shown dramatic decline over the last two decades. These changes have significant prognostic implications.

Gastrointestinal procedures in COVID-19 era, are they safe?

Dr. Maryam Rayatpisheh¹, Dr. Siavosh Nasser-Moghaddam¹

¹*Digestive Diseases Research Institute, Tehran University Of Medical Sciences, Tehran, Iran*

Background

Expansion of severe acute respiratory syndrome coronavirus 2 (SARS COV-2) has reshaped many of our healthcare services, including endoscopic procedures since December 2019. We aimed to assess COVID-19 like symptoms up to two weeks after elective gastrointestinal (GI) procedures in all patients in a GI referral center in Tehran.

Methods

All patients who underwent GI procedures from July 22nd 2020 till August 5th 2020 at a GI referral clinic, in Tehran, Iran. Due to unavailability of negative pressure rooms and the recommended air filters, a modified protection procedure (MPP) was developed and followed.

All patients were contacted by phone 4 weeks after the procedure. They were asked about COVID like symptoms including fever, fatigue, malaise, diarrhea, cough, COVID diagnosis or hospitalization for COVID within 2 weeks after their procedure.

Results

During the 2 weeks period of the study, 650 patients underwent various GI procedures. Seven of these patients could not be reached out after up to 5 contacts. Of the 643, 3 had confirmed COVID-19 within the next 2 weeks after their procedure. One of these 3 patients, required ward admission for five days. Therefore, the incidence of COVID-19 among these patients was 0.46% in 2 weeks and the rate of hospitalization due to COVID-19 was 0.0015 in the same time. No COVID-19 associated death was reported. According to the Iran's registry database, the incidence of COVID-19 test positive cases in Tehran District in the 2 week interval of our study was 35%.

Discussion

Although we used a modified disinfection procedure in our clinic which did not exactly meet the accepted guidelines' policies, but the incidence of COVID-19 was less than the average in Tehran and this can be an advantage that may ease restarting GI endoscopic procedures with less stringent protocols.

The Utility of Endoscopy May Perform Better than Age in Uninvestigated Dyspepsia

Dr. Maryam Rayatpisheh¹, Dr. Amir Anushiravani¹, Mrs. Maryam Kandi², Dr. Reza Malekzadeh¹, Dr. Ali Reza Sima¹, Dr. Gordon Guyatt³, **Dr. Siavosh Nasser-Moghaddam¹**

¹Digestive Diseases Research Institute, Shariati hospital, Tehran University Of Medical Sciences, Tehran, Iran, ²School of Public Health, Department of Health in Emergencies & Disasters, National Institute of Health Research, Tehran University of Medical Sciences, Tehran, Iran, ³Department of Health Research Methods, Evidence, and Impact. McMaster University Medical Centre, Hamilton, Ontario, Canada, Hamilton, Canada

Background & Aims

With advances in non-invasive diagnostics and therapeutics, the main use of esophagogastroduodenoscopy (EGD) in patients with dyspepsia is to exclude malignancies and re-assure the patient. Different age thresholds to perform EGD have been proposed by gastroenterology societies. We developed a decision-tree model and performed utility assessment to determine the optimal age to conduct EGD for assessing dyspepsia in the general population.

Methods

We chose two strategies: “prompt-endoscopy”, and “test-and-treat with managed-endoscopy” with three main outcomes of “no cancer”, “early-cancer”, and “advanced-cancer”. We delineated the paths to the outcomes with each strategy and conducted a utility assessment involving gastroenterologists and patients of a referral clinic. Using the mean utilities for each path and the highest prevalence of gastric-cancer among those with dyspepsia in the general population, we calculated the expected utilities for each strategy. We did sensitivity analyses to test the performance of the decision-tree under various assumptions.

Results

The expected values for “prompt-endoscopy” and “test-and-treat” were 0.721 and 0.980 respectively under the base-case assumptions, favoring “test-and-treat”. On sensitivity analysis, when utilities were kept constant and prevalence increased, the preferred strategy changed at a cancer-prevalence rate of 69.0%. When the cancer-prevalence was kept fixed and the utility increased, “prompt-endoscopy” became the preferred strategy at a utility of $\geq 98.0\%$. A third sensitivity analysis in which both prevalence and utility were increased revealed that if cancer-prevalence in the given dyspeptic population is $\geq 3.0\%$ and the EGD-utility $\geq 97.0\%$, then “prompt-endoscopy” becomes the preferred assessment tool.

Conclusion

According to our data, utility of EGD is a better determinant of the threshold for performing EGD than age. “Prompt endoscopy” may be better reserved for those with a very low disutility for EGD or where the prevalence of gastric cancer is considerably high ($>3.0\%$).

Epidemiological profile of cirrhotic patients with acute gastrointestinal bleeding

Dr. Sara Nacer¹, Prof fatima-zahra El rhaoussi¹, Prof mohamed Tahiri¹, prof fouad Haddad¹, prof wafaa Hliwa¹, prof Ahmed Bellabah¹, prof Wafaa Badre¹

¹*Chu Ibn Rochd, , Morocco*

Introduction

Acute upper gastrointestinal bleeding (UGIB) is a life-threatening medical emergency in patients with liver cirrhosis. Epidemiology of UGIB in patients with cirrhosis has been rarely reported. We aimed to determine the demographic and clinical profile of liver cirrhosis patients with digestive hemorrhage attending a tertiary care hospital

Methods

A Retrospective observational study was conducted at the Gastroenterology and Hepatology department from January 2020 to December 2021 including all patients with acute UGIB. A descriptive analysis of demographic data, clinical features, initial management and endoscopic reports was made.

Results

Among the 409 patients presenting UGIB, 127 with liver cirrhosis were enrolled. Mean age was 56 years and 58,3% were males. Main aetiology of cirrhosis was Hepatitis C viral infection 39,4% . Hypertension was present in 15.7%, diabetes mellitus in 14.2%, tobacco use in 33.9% and alcohol use in 17.3%. Among the studied population, 47.2% were prescribed betablocker prophylaxis and 26.4% had previously undergone an endoscopic variceal ligation.

Hematemesis represented 82.7% with or without melena, while melena alone represented 15.7 %. The median hemoglobin rate was 7.5 g/dl. Red cell transfusion was required in 35.4%. All patients received intravenous antibiotics and 47.2% were treated with octreotide. Esophageal varices (EV) alone were found in 72.4%, isolated gastric varices in 10,2% and combined esophageal and gastric varices in 39.5%. Endoscopic hemostasis was performed in 66.9%. Ascite was present in 32.3% of patients, 5,5% had hepatic encephalopathy, 7,2 % had portal vein thrombosis and 2,3 % had hepatocellular carcinoma. The median Child- Pugh score (CP) score was 7 and median Meld was 21. The mortality rate was 3,9%.

Conclusion

UGIB is a serious complication of liver cirrhosis leading to hospital admission and death. It is most frequently caused by variceal bleeding. Overall, the mortality rate seems to be reducing due to effective endoscopic therapy.

Analysis of the role of endoscopic signs of recurrent esophageal variceal bleeding in a new technique of endoscopic hemostasis

Ilya Savostyanov¹, **Prof. Alexey Korotkevich²**, doctor Anton Leontiev¹, Inna Shestak¹, Semyon May¹

¹Hospital Nr.29, Novokuznetsk, Russian Federation, ²Novokuznetsk Institute for Postgraduate Medical Education, Novokuznetsk, Russian Federation

Introduction and Objective

Bleeding from esophageal varices remains the most frequent cause of death in cirrhotic patients and the cause of endovascular intervention shortening the period of possible waiting for liver transplantation. Our aim was to analyze the role of endoscopic signs of recurrent variceal bleeding when using a new technique of endoscopic hemostasis.

Methods

Since 2016 all patients with variceal bleeding from the esophagus underwent gastroscopy and endoscopic hemostasis at the height of bleeding on admission. In case of active bleeding and fixed clot hemostasis was performed by intravenous injection of sclerosant microfoam (polidocanol) (8-20 ml). In thin-walled veins over 1 cm in diameter, endoscopic hemostasis was supplemented by submucosal infiltration with 1% hydrogen peroxide solution (5-10 ml). Vasoactive drugs were not used. Statistical analysis was performed using chi-square criterion, Fisher's exact method, reliable differences were considered at $p < 0.05$.

Results

A new technique of hemostasis was used in 49 patients. Bleeding recurrence during the hospital period occurred in 5 cases (10,2%). Vein diameter larger than 1 cm was found in 29 patients including 2 with recurrence (6,9%) ($\chi^2=0,85$, $p=0,3570$). Active bleeding during primary hemostasis was seen in 33 patients including 1 with recurrence (3%) ($\chi^2=5.67$, $p=0.0172$). Child-Pugh grade C was seen in 21 patients, including 3 with recurrence (14.3%) ($\chi^2=0.67$, $p=0.4137$). The microfoam volume of more than 14 ml for primary hemostasis was noted in 15 patients, 2 of them with recurrence (13.3%) ($\chi^2=0.23$, $p=0.6308$). In all cases of recurrence, repeated intravenous administration of sclerosant microfoam was successfully used.

Conclusion

Endoscopic signs of high portal pressure gradient are risk factors for recurrence, but vein diameter, large sclerosant microfoam volumes, and Child-Pugh grade C are not risk factors for variceal bleeding recurrence.

Esophageal leiomyoma : A rare cause of esophageal varices

Dr. Osama Mohammad¹, Professor Fouad Haddad¹

¹ *Ibn Rochd university hospital, Casablanca, Morocco*

Background

Leiomyomas are the most common mesenchymal tumors of the esophagus. They are of benign origin occurring mostly in the lower two thirds of the esophagus. Symptoms and signs are similar to other esophageal lesions, but they rarely present with bleeding from esophageal varices which is caused by compression of blood vessels at the lower esophagus as the case we present in this report. Radiological imaging plays an important role in the diagnosis. Enucleation for the esophageal leiomyoma is the preferred surgical method.

Methodology

A case report of a previously healthy 65- year-old women presented with recurrent hematemesis , chronic non productive cough and dyspnea on exertion with no hemoptysis, dysphagia, fever, anorexia or weight loss. Upper endoscopy revealed medium esophageal varices , lower esophageal diverticulum and a hiatal hernia. The chest and abdomen contrast-enhanced computed tomography demonstrated a large lower esophageal mass. The biopsy taken by diagnostic thoracoscopy showed histological features of leiomyoma.

Discussion

Leiomyomas are common benign esophageal tumors which originate from smooth muscle cells. It usually occurs in the lower third of the esophagus. It rarely presents by hematemesis from esophageal varices which occur due to compression of blood vessels at the lower esophagus.

Esophageal varices can be diagnosed by upper endoscopy while the characteristics and extension of the esophageal mass can be revealed by radiological tests. Histology is vital for diagnosis.

Conclusion

Esophageal leiomyoma can present by hematemesis associated with respiratory symptoms and can be misdiagnosed due to atypical symptoms or atypical imaging features. Recognizing the imaging features and pathologic basis of esophageal leiomyoma is important for detecting, early diagnosing and managing such benign lesions. Endoscopic and radiologic tests are essential to differentiate esophageal leiomyoma from other esophageal and mediastinal lesions.

Keywords

*Esophageal tumors * leiomyomas *hematemesis *esophageal varices

Bolus Versus Continuous Infusion of Terlipressin in Patients With Variceal Hemorrhage

Dr. Muhammad Qasim Chaudhry¹, Dr Shahab Abid¹, Dr. Nazish Butt², Dr Om Prakash¹, Mrs Shahzana Zulfiqar¹, Dr Amna Subhan¹, Dr Faisal Ismail¹, Dr Rustam Khan¹, Dr. Syed Shayan Ali², Dr Saeed Hamid¹, Ms Safia Awan¹
¹Aga Khan University, Karachi, Pakistan, ²Jinnah postgraduate medical center, Karachi, Pakistan

Background

Variceal hemorrhage is a manifestation of portal hypertension secondary to liver cirrhosis. The immediate goal of therapy is to control bleeding and prevent recurrence. Terlipressin- a systemic vasoconstrictor, can be given as a bolus or as an infusion. The aim of the study was to compare the two administration routes of Terlipressin in the treatment of variceal hemorrhage.

Methods

A two arm, randomized open label trial was conducted on patients admitted with acute variceal hemorrhage at two tertiary care centers in Karachi. The patients receiving the bolus dose (control group [C]) received 2 mg of Terlipressin every six hourly for the first 24 hours, whereas the patients allotted to the infusion dose (intervention group [I]) were given an infusion at the rate of 0.33 mg/hour over 24 hours. Continuation of the treatment beyond 24 hours was at the discretion of primary physician in both the treatment arms.

Results

A total of 125 patients (C= 63) were enrolled in the study. The most common comorbidity present in both cohorts was diabetes (C= 30.2%, I= 37.1%). Hepatitis C was most prevalent (C= 40.3%, I= 48.4%), followed by Non-B-Non-C (C= 21%, I= 24.2%), and Hepatitis B (C= 11.3%, I= 4.8%). MELD score was almost identical (C= 11.8 ± 5.3 , I= 11.3 ± 4.1 , $p= 0.59$). No significant difference in hemodynamic parameters including, Systolic blood pressure ($p=0.93$), Diastolic blood pressure ($p=0.88$) and heart rate ($p=0.13$) was noted. The length of hospital stay was an average of 56 hours in C and 69.5 hours in I. There was no significant difference in the 6 weeks mortality ($p=0.22$).

Conclusion

This study shows that there is no significant difference in patient outcomes following either of the methods of administration of terlipressin, bolus or infusion. Hence, the route of administration remains at the discretion of the physician.

Endoscopy Findings among Patients Presenting with Upper Gastrointestinal Bleeding in a Tertiary Institution in Abuja, Nigeria.

Dr. Lukman Abdulkareem¹, Dr Ojonogwa Ameh¹, Dr. Crystal Umejiaku¹, Dr. Dahiru Adamu¹, Dr. Lawrence Meliga¹, Dr. Donald Ogbonnaya¹, Dr. Justice Igbiti¹, Dr. Augustine Uhunmwangho¹

¹*Department of Internal Medicine, University Of Abuja Teaching Hospital, Abuja, , Nigeria*

Background and Purpose

Upper gastrointestinal bleeding (UGIB) is a common medical emergency with significant morbidity and mortality. The causes are usually categorized as 'variceal' and 'non-variceal' bleeding with Peptic ulcer disease (PUD) being the commonest cause of UGIB worldwide. Identification of the cause of UGIB via upper gastrointestinal endoscopy is important in its management and preventing repeat episodes. There is paucity of data on the causes of UGIB in Abuja, North-central Nigeria. This study thus, aimed to identify the causes of UGIB at a tertiary health institution in Abuja, North-central Nigeria.

Methodology

This was a retrospective study of patients who underwent upper gastrointestinal endoscopy on account of UGIB at the Endoscopy Unit of a tertiary institution in Nigeria over a 12 year period (January, 2010 – December, 2021). Data on bio-data and findings at endoscopy were extracted from the endoscopy register. Repeat endoscopies were excluded. Data obtained were analyzed using the Statistical Package for Social Sciences (SPSS) version 20.0.

Results and Discussion

A total of 351 patients had upper GI endoscopy on account of UGIB during the study period. Majority were males (70.1%). Their mean age was 46.4 (± 15.68) years. The commonest cause was gastro-esophageal varices (30.5%). Others common findings were gastritis (27.4%), PUD (22.2%), gastric malignancy (9.7%), gastric erosions (6.8%), duodenitis (4.8%) and gastric polyps (1.4%). Endoscopy findings were normal in 4.8%. About half of the patients (48.7%) had more than one endoscopy findings. Six (1.7%) patients had both gastric and duodenal ulcers, while 5(1.4%) had both gastric and oesophageal varices. PUD and oesophageal varices co-existed in 8(2.3%) patients.

Conclusion

About half of the patients studied had more than one endoscopy findings. Gastro-esophageal varices was the commonest finding at endoscopy among patients with UGIB in our study.

Upper gastrointestinal bleeding: is there a place for outpatient care ?

Dr. Hicham Elbacha¹, pr nadia benzzoubeir, pr ikram errabih

¹*Ibn Sina Hospital - CHU Ibn Sina, Mohammed V University Rabat, , Morocco*

Upper gastrointestinal bleeding (UGIB) is a frequent cause of admission in the emergency room and hospitalization in gastroenterology. The Glasgow-Blatchford Score (GBS) is an easy-to-calculate, validated score based on simple clinical and biological parameters allowing to identify patients who are at low or high risk of rebleeding . The aim of this work is to evaluate the prognostic contribution of the Glasgow-Blatchford score during upper gastrointestinal bleeding.

Methods

We conducted a prospective study from 2020 to 2021, including patients who has been hospitalized for UGIB. All patients benefited from a biological assessment, an upper endoscopy. Follow-up was done during hospitalization and by phone after discharge. Data collection was done using a pre-established operating sheet and statistical analysis using the software SPSS 20.0.

Results

We included 73 patients with UGIB, the average age WAS 56.5 ± 8.6 , the sex ratio (F/M) =1.28. The median of the GBS was 9 [6-10]. The prevalence of bleeding recurrence was 25.2% of patients [7 cases]. The median GBS was higher in patients who recurred 8 [4-10] compared to who not 5 [3 -7] , $p=0.03$. The median of the GBS was 9 [6-10] in transfused patients, compared to those who do not 6 [7-10] $p=0.47$. There were no significant difference between the median of GBS in patients with normal gastroscopy compared to those with hemorrhagic endoscopic lesions: 7 [4.5-10] Vs 9 [6-10], $p=0.19$. In multivariate analysis, GBS was predictive of recurrence: (OR = 2.2 - 95% CI: [1.5-9.3], $p=0.002$). By using a cutt off of 0, the sensitivity was 100 % with a perfect negative predictive value 100% Specificity was 9.52% positive predictive value: 26.9% AUC: 0.54, in recurrences detection.

Conclusion

The Glasgow-Blatchford score allows patients with a score of 0 to have outpatients care

Weekends versus Weekdays Admission with Upper Gastrointestinal Bleed: Would It Make Any Difference?

Dr. Syedda Ayesha¹, Dr Amna Subhan¹

¹The Aga Khan University Hospital, KARACHI, Pakistan

Introduction

Upper gastrointestinal bleed (UGIB) is a significant and common medical condition that not only require prompt management but also associated with notable morbidity and mortality if not treated timely. The association of weekend effect and mortality due to UGIB has been studied with some variability in results. Lack of availability of gastroenterologist and endoscopy unit to facilitate the interventional procedure especially where the resources are limited could affect the patient's outcome. Hence, here we aim to evaluate the difference in mortality of patients presenting with UGIB on weekends as compared to those admitted on weekdays.

Material and methods

This was a cross sectional study conducted at the Aga Khan university hospital, Karachi during January-December 2021. Adult patients with age ≥ 18 years presented with UGIB were included. Information was collected on demographic/clinical characteristics, timing and findings of endoscopy, length of hospital stay and mortality. Mortality and hospital stay were compared for patients admitted on weekdays vs on weekend by using chi square test.

Results

A total of 150 patients admitted with UGI bleed, of which 49 (51%) were admitted during the weekends. The mean age was 57.63 ± 15.64 years and 70% were male. Endoscopic intervention was performed over weekend in 21% cases. The overall mortality was 2.1%. No statistically significant difference was found in mortality among patients admitted over weekends vs weekdays (p 0.26). Hospital length of stay was shorter for patients admitted on weekdays vs weekend (3 vs. 4.5 days).

Conclusion

No difference in mortality was observed in patients admitted with UGI bleed on weekends vs weekdays. However, slightly shorter lengths of stay were observed if admitted on weekdays. Multicentric studies with larger sample size would be needed to evaluate the consistency of current findings.

Contribution of gastroscopy in non-varicose upper gastrointestinal bleeding and predictive factors for the need for endoscopic treatment : a prospective study

Dr. tarik Addajou¹, soukaina Rokhsi, samir Mrabti, Ahlame Benhamdane, ilhame elkoti, Fedoua rouibaa, ahmed benkirane, hassan seddik

¹Military Hospital Mohammed V, , Morocco

Background and Purpose

Upper gastrointestinal bleeding (UGIB) remains a frequent cause of emergency hospitalisation in gastroenterology.

Schematically, they are divided into varicose and non-varicose upper gastrointestinal bleeding (NVUGIB), the latter being the most frequent will be the subject of our study.

The aim of our study is to evaluate the contribution of gastroscopy in NVUGIB and search for factors that predict the need for endoscopic haemostasis

Methodology

This prospective monocentric cross-sectional study of 261 patients, was conducted over a one year period from June 2020 to August 2021 in our endoscopic emergency department.

Results

The main findings at endoscopy were peptic ulcer disease in 39% of cases, erosive gastritis or duodenitis in 30% of cases, and esophagitis in 15% of cases

Active bleeding during endoscopy was identified in 12% of cases, requiring endoscopic haemostasis in 6.5% of cases, however, surgery was necessary in 3 patients for bleeding not suitable for endoscopic haemostasis.

In a multivariate analysis following adjustment of the study parameters, namely, age, gender, the presence of comorbidities, the use of PPI at syringe pump and the presence of active bleeding, only the presence of active bleeding and the use of PPI with self pulsing syringe pump influenced the need for endoscopic haemostasis. In fact, the presence of active bleeding during endoscopy multiplies the risk of recourse to endoscopic haemostasis by 15, whereas the use of PPI with self pulsing syringe pump seems to reduce this risk by 75%.

Conclusions

NVUGIB remains dominated by ulcerative origin. According to our study PPI treatment initiated prior to endoscopy for upper gastrointestinal bleeding may reduce the proportion of patients with stigmata of recent haemorrhage and therefore reduces the need for haemostatic treatment.

The effect of anaerobically cultivated human intestinal microbiota compared to fecal microbiota transplantation on symptoms and gut microbiota profile of patients with irritable bowel syndrome, a double-blind placebo-controlled study

Dr. Tarek Mazzawi¹, Prof. Trygve Hausken², Mr. Per Førde Refsnes², Prof. Jan Gunnar Hatlebakk³, Prof. Gülen Arslan Lied³

¹*Al-Balqa Applied University, Al-Salt, Jordan*, ²*Haukeland University Hospital, Bergen, Norway*, ³*University of Bergen, Bergen, Norway*

Introduction

Fecal microbiota transplantation (FMT) from healthy donors improves the symptoms of irritable bowel syndrome (IBS) and changes the profile of the gut microbiota for the recipients. Alternatively, Anaerobically Cultivated Human Intestinal Microbiota (ACHIM) can be used to manipulate the gut microbiota. The aim of the current study was to compare the efficacy and safety of ACHIM suspension with donor-FMT and placebo (patient's own feces) to treat IBS.

Methods

Out of the 62 originally-included eligible patients with diarrhea-predominant IBS and their respective donors, only 43 patients completed the study by answering the questionnaires and delivering fecal samples before transplantation and after 1, 4, 12 and 24 weeks. The patients were randomized into three subgroups, at a ratio of 1:1:1 in blocks of six using a computer-generated list, for receiving ACHIM suspension (n=17), donor-FMT (n=11), or placebo (n=15), and were followed up for 24 weeks. Fecal samples were analyzed by sequencing 16S rRNA gene using the GA-map Dysbiosis Test (Genetic Analysis AS, Oslo, Norway). Kruskal-Wallis with Dunn's multiple comparison test and Paired t -test were used for microbial data and questionnaires analysis.

Results

IBS symptoms questionnaires improved in all of the three subgroups using IBS severity scoring system (IBS-SSS). Significant changes were found in bacterial strain signals of Actinobacteria, Bifidobacterium and Alistipes onderdonkii in IBS patients between ACHIM and donor-FMT vs. placebo. These signals changed after treatment with ACHIM suspension and donor-FMT towards those measured for healthy controls, but not after placebo.

Conclusion

IBS symptoms questionnaires improved in all three forms of transplantation. Some bacterial strain signals were significantly different between ACHIM and donor-FMT vs. placebo. However, placebo subgroup failed to change the gut microbiota towards signals measured for healthy controls. The safety and efficacy of ACHIM and donor-FMT seems similar in the current study, but further larger studies are needed.

Modulating the Gut-Biome for Complete and Deep Remission in Crohn's Disease: A Case Study.

Dr. Sai Tummala¹, Dr. Sirish Palle², Dr. Matt Develaraja³

¹Medisynbio Inc, Cincinnati Childrens Hospital., Cincinnati, United States, ²OU College of Medicine, The University of Oklahoma., Oklahoma City, United States, ³Medisynbio Inc, Cincinnati, United States

Background

Gut-biome plays crucial role in modulation of inflammatory and immune pathways. Diverse bacterial species from gut microbiota feed on specific prebiotics (non-digestible dietary fibers) producing metabolites, such as short chain fatty acids (SCFAs). These SCFAs beneficially affect the intestinal mucosa with their role in metabolic and immunologic homeostasis, and gut barrier integrity. Recently SCFAs gained interest as potential therapeutic targets, for instance in Inflammatory Bowel Disease (IBD) that includes Crohn's disease (CD) and ulcerative colitis (UC).

Hypothesis/purpose

Nourishing the gut-biome thru synbiotic formulation can enhance the interspecies synergy and production of SCFAs more naturally. This is a superior and holistic approach to reduce inflammation.

Methods (Clinical Case)

A 11 year old male with refractory iron deficiency anemia, fecal calprotectin at 1375 µg/g, on video capsule endoscopy showed discrete linear and serpiginous ulcers with surrounding erythema in duodenum and proximal jejunum. Biopsy of colon showed multiple granulomas in terminal ileum and entire colon suggesting CD (Inflammatory phenotype). Exclusive Enteral Nutrition (EEN) with polymeric formula proved unsustainable. To nourish the gut-biome and its ecosystem a synbiotic formulation from Medisynbio which has a blend of specific prebiotics including human milk oligosaccharide (HMO) and complimentary probiotic blend with strains of Lactobacilli and Bifidobacterium was administered and followed for 20 weeks. Formulation also contained powerful antioxidant for synergistic effect in reducing inflammation.

Results

After 4 weeks on synbiotic, fecal calprotectin dropped to 665ug/g which further dropped to 65 ug/g by week 15. Complete and deep remission was observed by 15 weeks as analyzed by endoscopy/colonoscopy (images), histology and stable lab tests results that are repeated several times. Patient continued tolerance to solid foods with no relapse.

Conclusions

Synbiotic formulations that can nurture the ecosystem, foster interspecies interactions, cross feeding and generation of metabolites (SCFAs) are a holistic and superior approach for remission in IBD.

The Role of Helicobacter Pylori infection in Microbiome variability in patients with Functional Dyspepsia – An analytical Cross-Sectional Study

Dr. Muhammad Qasim Chaudhry¹, Dr. Shahab Abid¹, Dr Hareem Rehman¹, Dr Faisal Ismail¹, Dr Amna Subhan¹, Ms Safia Awan¹

¹Aga Khan University, , Pakistan

Background

The aim of this study was to determine microbiome profiles amongst H. Pylori positive and negative patients with functional dyspepsia. Functional dyspepsia was further divided into epigastric pain syndrome (EPS) and post prandial distress syndrome (PPDS).

Methodology

Endoscopy was performed in patients with dyspeptic symptoms. Patients with obvious endoscopic lesions (ulcers, erosions and tumors) were excluded. Gastric biopsies were collected and urease test performed to detect H.pylori. This was followed by metagenomic DNA extraction, PCR amplification using universal bacterial 16S rRNA primers and 16S rDNA metagenomic sequencing by Illumina technology. In order to assess the microbiome dynamics, bioinformatics analysis of V3-V4 hypervariable region of 16S rRNA gene from gastric bacteria was carried out by Greengenes and SILVA ribosomal sequence databases.

Results

A total of 150 participants were recruited, out of which 36% were H. pylori positive. On the phylum level, Bacteroidetes (p value = 6.44×10^{-4}) were more abundant in H. Pylori positive patients, while Actinobacteria (p value = 8.64×10^{-6}) and Cyanobacteria (p value = 0.012) were found to be abundant in H. Pylori negative patients.

On the genera level, Haemophilus (p value = 1.37×10^{-4}), Prevotella (p value = 0.013), Neisseria (p value = 7.05×10^{-5}) and Porphyromonas (p value = 4.54×10^{-3}) were significantly higher in patients with positive H. pylori status. On the other hand, genera Acinetobacter (p value = 1.69×10^{-6}), Pseudomonas (p value = 3.63×10^{-5}), Klebsiella (p value = 7.32×10^{-6}), Serratia (p value = 5.84×10^{-5}) and Escherichia (p value = 1.63×10^{-4}) were significantly associated with H.Pylori negative status.

Conclusion

This study indicates microbiome variability both at the phylum and genera level.

Exploratory and interventional studies are required to establish the clinical contribution of microbiome variability in H.pylori related gastroduodenal diseases.

A real-world study evaluating use of *Bacillus clausii*, treatment outcomes and patient satisfaction in Italian community pharmacies

Corrado Giua¹, Flora Romano¹, Enrico Keber¹, Paolo Pellegrino², Marcos Perez³, Maria-Chiara Ubaldi²

¹*Società Italiana Farmacia Clinica (SIFAC), Cagliari, Italy*, ²*Sanofi, Milan, Italy*, ³*Sanofi, Frankfurt am Main, Germany*

Background and Purpose

Patients worldwide self-manage ailments like diarrhea and antibiotic-associated symptoms using probiotics. Pharmacists are in a strategic position to investigate the reasons behind probiotic self-medication and patient-reported outcomes. The aim of this study is to evaluate usage of a *Bacillus clausii* probiotic among self-medicating patients at Italian community pharmacies, their treatment habits, and perceived benefits.

Methods

This is a multicentre, prospective, non-interventional study which included two visits (at screening [T0] and end of study [T1]). Patients who were already inclined to buy *B. clausii* were enrolled, instructed to complete a questionnaire (at T0 and T1) and were asked to come back to the pharmacy when symptoms had subsided (T1), but no later than 30 days after T0. The primary objective was to evaluate the reasons for taking *B. clausii*. Secondary objectives assessed treatment duration, perceived effectiveness, quality of life (QoL), treatment satisfaction and safety outcomes.

Results

Overall, 268 pts were enrolled: 99.6% of which were evaluated at T0, 97.4% at T1 while 97.8% that had ≥ 1 dose of *B. clausii* were assessed for safety. At T0, average age was 50.7 years and majority were females. In the 12 months before enrolment, all patients reported at least 1 GI symptom, the most common being diarrhea (58.8%), abdominal pain (23.2%), and bloating (16.1%). More than 90% perceived their symptoms to have improved or improved very much. QoL improved in every aspect measured. Roughly 90% were satisfied, very satisfied or extremely satisfied. No adverse events were reported.

Conclusion

This is the first pharmacy-based study in Italy that provided real-world picture of usage of probiotics like *B. clausii* among self-managing adult patients. Most patients adhered to the leaflet information. Diarrhea was the most common reason for using *B. clausii* probiotic, with high-level of perceived effectiveness and patient satisfaction.

Gut dysbiosis in COVID-19 and recovered COVID-19 patients: a systematic review

Mr. Daniel Martin Simadibrata¹, Mr. Jeffri Gunawan², Prof Eamonn Martin Quigley³, Prof. Marcellus Simadibrata⁴

¹Faculty of Medicine Universitas Indonesia, , Indonesia, ²Department of Internal Medicine and Diagnostics, Faculty of Medicine, Universitas Trisakti, , Indonesia, ³Lynda K and David M Underwood Center for Digestive Disorders, Houston Methodist Hospital and Weill Cornell Medical College, , United States of America, ⁴Division of Gastroenterology, Department of Internal Medicine, Faculty of Medicine, Universitas Indonesia – Ciptomangunkusumo Hospital, , Indonesia

Background and Purpose

Understanding the relationship between human gut microbiota and COVID-19 could be key to exploring the pathogenesis and pathophysiology of this persistent infection. This systematic review assesses the gut microbiota composition in COVID-19 and recovered COVID-19 patients compared to healthy controls (HCs).

Methodology

Peer-reviewed articles and preprints published up to May 5, 2022, were searched in Ovid MEDLINE, Ovid EMBASE, and SCOPUS. Studies that reported the gut microbiota profile in adult COVID-19 patients and/or recovered COVID-19 patients compared to HCs were included. The quality assessment of studies was performed using the Newcastle-Ottawa Scale.

Results and Discussion

We identified 19 studies comprising 13 that compared COVID-19 patients and four studies that compared recovered COVID-19 patients to HCs, while two studies compared both COVID-19 and recovered COVID-19 patients to HCs. Compared to HCs, decreased gut microbial diversity and richness and a distinctive microbial composition were reported in COVID-19 patients and recovered COVID-19 patients. In COVID-19 patients, Bacteroidetes were found to be enriched, and Firmicutes depleted. Decreased SCFA-producing bacteria such as Faecalibacterium, Ruminococcus, and Bifidobacterium, among others, were also observed in COVID-19 patients, which were not restored to normal levels in those who recovered.

Conclusion

Gut dysbiosis was evident in both COVID-19 and recovered COVID-19 patients, with decreased Firmicutes and SCFA-producing bacteria. Despite the lack of standardized methodology to analyze and report gut microbiome studies, currently available data suggest that gut microbiota is a potential target for preventing and treating COVID-19.

Evaluation of biofilm production of *Helicobacter pylori* strains isolated from gastric biopsies in a South African population

Dr. Hafeez Mohamed¹

¹*Radogani Research, Parktown, Johannesburg, South Africa*

Evaluation of biofilm production of *Helicobacter pylori* strains isolated from gastric biopsies: An in vitro study in Chris Hani Baragwanath Academic Hospital South Africa.

Authors' list: Ayodeji Idowu^{1,2}, Hafeez Mohamed^{2*}, Priyamvada Pradeep², Razinah Mamdoo¹, Siyanda Mahlasela¹, Nazeer Chopdat¹, Hitendrakumar Bhaga¹, Reidwaan Ally¹

Abstract

Background

Helicobacter pylori (Hp) strains from different parts of Africa differ in their expression of virulence factors and gastric pathologies. Hp biofilm formation, which has been shown to possibly be linked to Hp eradication failure, may also correlate with more severe gastric pathology. We aimed to determine qualitative and quantitative Hp biofilm formation, comparing different techniques, and relating it to gastric pathologies.

Results

Gastric specimens were subjected to microbiological, histopathological, and rapid diagnosis test analysis. Two phenotypic test methods, Congo red agar (CRA) and tissue culture plate (TCP) methods were compared with a polymerase chain reaction (PCR) molecular assay for the detection of Hp biofilm production and characterization. Eighty-one (40.5%) of the 200 recruited patients were positive for Hp by culture and confirmed by PCR analysis. Rapid Strong HelicotecUT®Plus yielded significant agreement of 97.5% (79/81) with the culture technique, while histopathological examination detected a low sensitivity of 39.5% (32/81) with culture gold standard. Of the total 81 Hp culture strains, PCR amplification of Hp hypothetical protein K747_10375 and outer membrane protein (homD) genes, identified 73 (90.1%) as biofilm formers uniformly. CRA and TCP methods detected 83% (67/81) and 86.4% (70/81) biofilm formation, respectively. A larger percentage were strong biofilm formers (39/70, 56%) and associated with severe gastric pathologies such as gastric cancer, peptic ulcers, and gastric erosion.

Conclusions

This study showed good performance and synergy between the three methods used in detecting Hp biofilm production. It also revealed that most Hp strains obtained in the study are strong biofilm formers and are associated with chronic gastric diseases.

Gut microbiome and microbial metabolic pathways in patients with ulcerative colitis: not quite expected findings from a 16S rRNA metataxonomic study with metagenomic functional prediction

Dr. Stanislav Sitkin^{1,2,3}, Dr. Svetlana Kononova^{1,4}, **Prof. Dr. Leonid Lazebnik⁵**, Dr. Daniil Azarov¹, Dr. Maria Skalinskaya², Prof. Dr. Igor Bakulin², Dr. Timur Vakhitov¹

¹*Institute of Experimental Medicine, St. Petersburg, Russian Federation*, ²*North-Western State Medical University Named After I.I. Mechnikov, St. Petersburg, Russian Federation*, ³*Almazov National Medical Research Centre, St. Petersburg, Russian Federation*, ⁴*Institute of Protein Research, Pushchino, Russian Federation*, ⁵*A.I. Yevdokimov Moscow State University of Medicine and Dentistry, Moscow, Russian Federation*

Background and Purpose

Inflammatory bowel disease (IBD) continues to increase in incidence and prevalence worldwide. The aim of this study was to explore the fecal microbiota and microbial metabolic pathways in patients with ulcerative colitis (UC).

Methods

Due to significant gender differences in the immune response in IBD, only males were included in the study: 19 patients with UC and 25 healthy controls (HC). DNA was isolated from stool samples and the V4 region of 16S rRNA was amplified, followed by sequencing on Illumina MiSeq. Analysis of sequencing data was carried out in QIIME2, ASV classification was carried out according to the Greengenes database, prediction of metabolic pathways was carried out in PICRUSt2, and statistical analysis was performed in R.

Results

Bioinformatics analysis revealed significant differences in the relative abundance of gut microbiota taxa between UC patients and HC. At the class level, UC patients showed a decrease in Methanobacteria (Archaea) and Verrucomicrobiae and an increase in Bacilli, which is consistent with other studies. At the species level, UC patients showed significantly decreased *Gemmiger formicilis*, *Ruminococcus torques*, *Akkermansia muciniphila*, *Bacteroides plebeius*, *Subdoligranulum variabile*, *Butyrivibrio pullicaecorum*, *Coprococcus eutactus*, *Coprococcus catus* and increased *Bacteroides fragilis*, *Eggerthella lenta*, *Eubacterium dolichum*, and *Faecalibacterium prausnitzii*. The latter finding was unexpected since most IBD studies have previously reported a decrease in *F. prausnitzii*, and only recently analysis of data from 5 metagenomes has shown that its increase can be observed in UC. The functional analysis identified about 60 significant metabolic pathways, which can be grouped into several metabolic clusters. Not entirely expected, the alteration of microbial metabolic pathways has been most affected in processes related to methanogenesis, and NAD biosynthesis.

Conclusions

The revealed differences in fecal microbiota and metabolic pathways can be used as potential biomarkers and therapeutic targets in IBD.

Supported by RSF, No. 20-65-47026.

Patients with non-celiac gluten sensitivity exhibit site-specific gut microbial differences than those with irritable bowel syndrome

Dr. Anam Ahmed¹, Mr Kunal Dixit², Dr Dhiraj Dhotre³, Dr Alka Singh¹, Dr Vineet Ahuja¹, Dr Yogesh Shouche³, Dr Govind K Makharia¹

¹All India Institute Of Medical Sciences, New Delhi, India, ²Symbiosis School of Biological Sciences, Pune, India, ³National Centre for Cell Science, Pune, India

Background and purpose

There is an overlap between symptoms of non-celiac gluten sensitivity (NCGS) and irritable bowel syndrome (IBS). We explored the small intestinal, large intestinal and whole gut microbiota in them to understand if any difference exists in them and further assessed effect of gluten-free diet (GFD) on microbiota in NCGS.

Methods

492 patients with IBS (based on Rome IV criteria) were screened for anti-gliadin Ab and diagnosis of NCGS in AGA positive individuals was made on the basis of Salerno criteria. Stool and mucosa-associated (small intestinal and colonic) microbiota was assessed in 130 patients with IBS (AGA negative) 14 patients with NCGS both at the baseline and after 6 weeks after gluten-free diet (GFD) to observe the effect of intervention on site specific microbiota profile. Microbiota was analyzed using 16S RNA gene amplicon profiling followed by downstream analysis by DADA2 pipeline and R statistics.

Results

NCGS patients exhibited differences in gut microbiota associated with small intestinal as compared to IBS. DESeq2 analysis revealed differentially higher abundance of *Stenotrophomonas*, *Deinococcus*, *Leucobacter*, *Solibacillus*, and *Alcaligenes* in NCGS. Moreover, there was reduction in abundances of potential gluten-degrading genera and higher ratio of *Prevotella* to *Burkholderia* in duodenal mucosa, which can act as a biomarker for NCGS. There was an increase in bacterial networking and decrease in interindividual variability in the whole gut and site specific (small intestine) microbiota, respectively after GFD.

Conclusion

Significant difference exists in small intestinal microbiota of NCGS patients. Six weeks GFD not only alleviates symptoms but also restores microbial diversity considerably.

Low-grade dysplasia in patients with Inflammatory Bowel Disease: incidence and outcomes from a tertiary referral centre.

Dr. Eman Al Sulais¹, Dr. Monika Tripathi¹, Dr. Tim Raine¹

¹Addenbrooke's Hospital, Cambridge University Hospital, Cambridge, United Kingdom

Background and Purpose

Patients with inflammatory bowel disease (IBD) are at risk of developing dysplasia and colorectal malignancy. Therefore, we aimed to investigate the incidence of low-grade dysplasia and outcomes for patients with IBD treated at our tertiary referral centre.

Methodology: We interrogated endoscopy and histopathology databases for patients with IBD from 2016-2021. We extracted baseline demographics, disease characteristics, endoscopic findings, and diagnosis of dysplasia. Where low grade dysplasia (LGD) was detected, we recorded management and outcomes.

Results and discussions

We identified 68 instances of LGD in patients with IBD. The mean age was 56, 50/68 (74%) were male. 57/68 (83%) had ulcerative colitis (UC), 8/68 (12%) had Crohn's disease (CD). 10/68 (15%) had coexisting PSC. Endoscopic disease severity was severe in 3/68 (5%), moderate in 41/68 (60%), mild in 13/68 (19%) and quiescent in 11/68 (16%). Disease extent in patients with UC was proctitis in 9/57 (13%), left-sided colitis in 16/57 (28%) and pancolitis in 32/57 (56%). For patients with LGD and CD, 4/8 (50%) had ileocolonic, 1/8 (13%) had ileocecal, and 3/8 (38%) had colonic disease location.

The median time from diagnosis to detection of LGD was 6 years (Table 1). We characterised findings according to the certainty of the reporting histopathologist for the presence of LGD, as well as endoscopically visible vs invisible lesions, and whether dysplasia was focal or multifocal (Figure 1).

Conclusion

Patients with IBD and low-grade dysplasia are at elevated risk of CRC but also may have subsequent normalization of colonic histopathology. Some patients may develop LGD sooner after diagnosis than the start of currently recommended screening programs. Rates of HGD/CRC did not differ between patients with an index finding of definite vs indefinite LGD. Careful selection of management tailored to index findings is essential to ensure favorable outcomes.

Epidemiology of Inflammatory bowel disease: Results from a university hospital center study

Dr. Sara Nacer¹, Prof Fouad Haddad¹, Prof Fatima Zahra El Rhaoussi¹, Prof Mohamed Tahiri¹, Prof Wafaa Hliwa¹, Prof Ahmed Bellabah¹, Prof Wafaa Badre¹

¹*Chu Ibn Rochd, Casablanca, Morocco*

Introduction

The worldwide epidemiology of inflammatory bowel disease (IBD) is changing. There are several epidemiological studies showing an increased incidence of IBD in the world. However, more data is required from Morocco. This study aims to determine the epidemiological profile of Crohn disease (CD) and Ulcerative colitis (UC) in a Moroccan center.

Method

We conducted a retrospective cross-sectional study at gastroenterology department for one year (2020 - 2021). All patients with an established diagnosis of IBD were included. The demographic and clinical features of patients were studied.

Results

We included 367 IBD patients, 37,6% with UC and 62,4% with CD. Mean age was 31,65 years with a female-to-male ratio of 1.1. Active smoking was noted in 15,8% of patients and 4,7% CD patients underwent appendectomies. Positive family history was uncommon 4.4% overall, but more common in CD ($p=0.03$). In UC, disease extent was pancolitis in 50%. Clinical remission was found in 16,9% with a mean Mayo score of 5,3. Patients with pancolitis were younger at diagnosis than those with left-sided colitis ($p=0,02$). They had more frequent incidence of smoking ($p=0,001$) and chronic active disease ($p<0,001$). Among CD patients, 59% were in the age group 17–40 years. Localization of CD was ileocolonic in 64.6%. Disease phenotype was inflammatory in 33,6%. Anoperineal manifestations were noted in 39,3%. Clinical remission was found in 29,7% with a mean Harvey Bradshaw index (HBI) of 3.9. Patients with structuring, penetrating disease or associated perianal lesions were younger ($p=0.03$), had a longer illness duration ($p=0,03$), a higher HBI ($p=0,001$), a greater need of surgeries ($p=0,045$). Extraintestinal manifestations were seen in 16.6 %.

Conclusion

Overall, there is a predominance of men, young adults and presence of CD. The ileocolonic and structuring behavior were the most frequent in CD, while pancolitis was more common among patients with UC.

Risk Factors of Cytomegalovirus colitis in inflammatory bowel disease

Dr. Sara Nacer¹, Prof Fouad Haddad¹, Prof Fatima zahra El Rhaoussi¹, prof Mohamed Tahiri Joutei Hassani¹, prof wafaa Hliwa¹, prof Ahmed Bellabah¹, prof wafaa Badre¹

¹*Chu Ibn Rochd, Casablanca, Morocco*

Introduction

Patients with inflammatory bowel disease (IBD) are at an increased risk for cytomegalovirus (CMV) colitis. Early detection and rapid initiation of antiviral treatment for CMV disease seems to reduce the mortality and colectomy rate.

The aim of this study was to identify risk factors for CMV colitis (CMV+) in IBD patients

Methods

A single center retrospective study was conducted between 2016 and 2021 including 130 active IBD patients with known CMV status. CMV+ was defined by the presence of clinical signs associated with inclusion bodies detected microscopically using haematoxylin and eosin (H&E) and/or CMV immunohistochemistry (IHC) staining and/or quantitative PCR (qPCR) in colonic biopsies with a cut-off value of >250 copies/mg. Univariate and multivariate analysis identified independent risk factors. Statistical significance was set as $p < 0.05$.

Results

A total of 13 patients were diagnosed with CMV+. The median age was 36.7 years with a sex-ratio of 2. Positive CMV inclusion bodies in H&E staining were identified in 53,8% patients. IHC staining was positive in 23% patients and qPCR in 30,7% patients.

Median disease duration in the CMV+ group was shorter than that in the CMV negative group (CMV-) ($p=0.001$). Median Mayo Score in ulcerative colitis (UC) CMV- was 7 compared with 10 in CMV+ ($p=0,026$). Patients with Crohn's disease in the CMV- had a median Harvey Bradshaw index of 14 compared with 17 in CMV+ ($p=0,034$). The presence of endoscopic ulcers is a predictive factor for CMV+ ($p=0.02$). Higher steroid usage rate was observed in the CMV+ compared with CMV- ($p=0.003$). The use of more than two lines of immunosuppressive drugs ($p=0.001$) and steroid-refractory colitis ($p=0.001$) were risk factors to CMV+.

Conclusion

CMV colitis occurs in patients with UC rather than CD. The use of corticosteroid, combined immunosuppressants and severe IBD patients were identified as risk factors to CMV disease.

Quality of life in patients with acute severe ulcerative colitis: long-term follow-up results from the CONSTRUCT trial

Prof. Laith Al-Rubaiy¹

¹*St Mark's Hospital, , United Kingdom*

Background

Measuring patient quality of life (QoL) is an important part of monitoring Ulcerative colitis (UC) alongside clinical assessments. UC has a negative impact on QoL, particularly when patients have flare-ups. There is currently limited research examining QoL of UC patients following treatment of acute severe colitis (ASUC)

Objective

To examine the long-term QoL of ASUC patients enrolled in the CONSTRUCT trial following treatment of UC with infliximab or ciclosporin and to compare differences in QoL between the two drug treatments over time.

Methods

The CONSTRUCT trial examined the cost and clinical effectiveness of infliximab and ciclosporin treatments for acute severe UC. We collected QoL questionnaire data from patients during the active trial period up to 36 months. Following trial completion, we contacted patients by post annually for up to a maximum of 84 months. We collected QoL data using a disease specific (CUCQ, or CUCQ+ for patients who had colectomy surgery) or generic (EQ5D-3L) questionnaire. We analysed QoL scores to determine if there was any difference over time and between treatments in generic or disease specific QoL.

Results

Following initial treatment with infliximab and ciclosporin, patients experienced a statistically significant improvement in both the generic and disease specific QoL at three months. Generic scores remained fairly static for the whole follow up period, reducing only slightly up to 84 months. Disease specific scores showed a much sharper improvement up to 2 years with a gradual reduction in QoL up to 84 months. Generic and disease specific QoL remained higher than baseline values. There was no significant difference between treatments in any of the QoL scores.

Conclusions

Both infliximab and ciclosporin improve QoL following initial treatment for ASUC. QoL scores remain higher than at admission up to 84 months post-treatment.

Vedolizumab and Ustekinumab for the Treatment of Symptomatic Small Bowel Stricturing Crohn's Disease - Results from an Observational Cohort Study

Dr. Sara El Ouali¹, Ronald Ottichilo², Norma Atkinson², Dr. Cathy Lu³, Dr. David Bruining⁴, Dr. Taha Qazi², Dr. Jean-Paul Achkar², Dr. Joseph Sleiman², Dr. Stefan Holubar⁵, Dr. Mark Baker⁶, Dr. Namita Gandhi⁶, Dr. Joel Fletcher⁷, Dr. Numan Balci⁸, Dr. Benjamin Click⁹, Dr. Benjamin Cohen², Dr. Florian Rieder²

¹Digestive Disease Institute, Cleveland Clinic Abu Dhabi, , United Arab Emirates, ²Digestive Diseases and Surgery Institute, Cleveland Clinic, Cleveland, United States, ³Department of Gastroenterology, University of Calgary, , Canada,

⁴Department of Gastroenterology, Mayo Clinic, Rochester, United States, ⁵Department of Colorectal Surgery, Digestive Diseases and Surgery Institute, Cleveland Clinic, Cleveland, United States, ⁶Department of Radiology, Cleveland Clinic, Cleveland, United States, ⁷Department of Radiology, Mayo Clinic, Rochester, United States, ⁸Imaging Institute, Cleveland Clinic Abu Dhabi, , United Arab Emirates, ⁹Division of Gastroenterology and Hepatology University of Colorado School of Medicine, , United States

Background and Purpose

Currently, anti-inflammatory approaches are the mainstay of treatment in stricturing Crohn's disease (CD). However, data on the efficacy of vedolizumab (Vdz) and ustekinumab (Uste) in CD strictures is lacking. The aim of this study was to evaluate the outcome of Vdz and Uste in patients with small bowel stricturing CD.

Methodology

We performed a single-center observational cohort study evaluating adult patients who received Vdz or Uste after objective evidence of stricturing small bowel CD. Strictures were defined on CT or MRI by CONSTRICT criteria [2 out of the 3 following features: 1)bowel wall thickening 2)luminal narrowing or 3)prestenotic dilation]. Strictures associated with penetrating disease, ileostomies and ileal pouch anal-anastomosis were excluded. Outcomes were time to obstructive symptoms, time to endoscopic balloon dilation (EBD) or time to surgery.

Results and Discussions

21 CD patients (48% female, median age 44 years) were included. 62% of strictures were anastomotic. 15 received Uste and 6 received Vdz. Median follow-up was 14 and 15 months for Uste and Vdz, respectively. All patients had previously been on anti-tumor necrosis factor (anti-TNF) therapy. Among patients receiving Uste, 40% developed obstructive symptoms (median time to recurrence: 7 months). EBD was performed in 27% of patients (median time: 4 months) and 27% underwent surgery (median time to surgery: 8 months). Among patients receiving Vdz, 83% developed obstructive symptoms (median time of 2 months). EBD was performed in 33% of patients (median time: 10 months), 17% underwent surgery (median time: 23 months). Drug persistence at 6 months was 100% on Uste and 83% on Vdz.

Conclusions

This first observational study of vedolizumab and ustekinumab in stricturing CD indicates they can be used after anti-TNF, although a high proportion of patients still requires EBD or surgery. This pilot data is currently being confirmed in a multicenter collaborative study.

Clinical outcomes in Crohn's patients newly initiated on Azathioprine – a large single center cohort.

Dr. Alok Bansal¹, Dr. A J Joseph¹, Dr. Ebby Simon¹

¹Christian Medical College And Hospital, Vellore, India

Background

Azathioprine (AZA) remains the first choice for maintenance therapy in Crohn's disease (CD) as biologicals are expensive. The recent literature is limited regarding clinical outcomes and variables predicting response to thiopurines.

Methodology

CD patients started on AZA were retrospectively reviewed. Outcomes were assessed using the Harvey Bradshaw score (HBS). Patients were grouped as (i) remission = HBS < 5, (ii) response = reduction of 3 points and (iii) non-response. The correlation of the CRP to response was calculated with the Wilcoxon signed-rank test. Drug dose to response was calculated with a t-test.

Results and Discussion

Among 318 CD patients who received AZA, 155 (48.7%) received higher doses (>1.5 mg/kg) and 163 (51.7%) received lower doses (<1.5 mg/kg). On follow-up, 188 (76%) patients had remission or response on AZA, while 60 (24%) did not. A greater proportion of patients who had remission or response [116 (61.7%)] received higher doses of AZA compared to non-responders [26 (43.3%)] ($p < 0.001$). This finding contradicted previous studies that suggested the effectiveness of a lower dose of AZA in Asian patients with inflammatory bowel disease. Among patients who initially achieved remission or response, 26 relapsed on follow-up. Nineteen (73%) of these patients were on a higher dose of AZA. The mean weight gain and CRP improvement were significantly higher in the remission and response groups as compared to non-responders with ($p < 0.001$). It probably reflected the decrease in catabolic activity and improvement in appetite that goes hand in hand with disease control.

Conclusion

Patients on higher doses of AZA were more likely to achieve remission or response as compared to those on lower doses. However, patients who required higher doses for disease control were more likely to relapse. Weight improvement was a useful parameter that may be used to monitor the response to AZA in patients with CD.

Prevalence Of The Nudt15 Polymorphism And Its Association With Adverse Effects Among Azathioprine Users In A Chilean Population

Dr. Camila Estay¹, Dr. Christian Von Muhlenbrock^{1,2}, Natalia Covarrubias¹, Julio Miranda¹, Daniela Simian¹, Dr. Mauricio Venegas¹

¹Universidad De Chile, Santiago, Chile, ²Universidad de los Andes, Santiago, Chile

Background

Azathioprine (AZA) is a widely used drug associated with frequent adverse effects (AEs) (8-32%), with thiopurine-induced myelotoxicity (TIM) being the most serious. Twenty-five percent of TIM may be related to genetic variations in enzymes involved in AZA metabolism, thiopurinemethyl transferase (TPMT) and lately rs116855232 polymorphism (C145T; p.Arg139Cys) of hidrolase nudix 15 (NUDT15) gen. Prevalence of these mutations is highly variable among different countries. PURPOSE: To evaluate the prevalence of the NUDT15 polymorphism in patients with previous TPMT status evaluation. To describe the frequency of NUDT15-associated AEs in AZA users. METHODS: We analyzed 179 blood samples for TPMT polymorphism, NUDT15 polymorphism was determined by PCR-RFLP. AZA users were evaluated for the presence of adverse events (AE).

Results

Of 179 samples, 35 (19.5%) presented the polymorphism in NUDT15. TPMT polymorphism was found in 13 (8.23%) samples, 4 patients had both mutations. Of the 85 AZA users, 29% (25 patients) had AEs, being TIM the most frequent AE with 15 patients, of them 12 (80%) had NUDT15 and/or TPMT mutation. Having NUDT15 mutation showed an increased risk for AEs (OR 12.9, p <0.001). TIM represented 11 of 12 AEs in patients with mutation in NUDT15 compared with 4 of 13 AEs in patients wild type NUDT15 status.

Conclusions

NUDT15 polymorphism is frequent in our local experience. Its routine identification as well as the status of TPMT allows us to select patients with high risk of TIM at an affordable cost in our center

Disease clearance as an achievable novel endpoint in Inflammatory Bowel Disease?

Dr. Maria José Temido, Dr. Andrea Silva, Dr. Sandra Lopes, Prof. Pedro Figueiredo, Dr. Francisco Portela

¹*Centro Hospitalar E Universitário De Coimbra, Coimbra, Portugal*

Background and Purpose

The physiopathology, prognostic factors and most appropriate therapeutic goals of Inflammatory bowel disease are still yet to be completely revealed. Disease clearance, defined as absence of symptomatic, analytical, endoscopic and histologic disease has recently been identified as a fruitful path to pursue. This endpoint seems to be more correlated with outcomes than mucosal healing. We aim to evaluate the rates of achievement of disease clearance in ulcerative colitis patients in a real-world setting.

Methodology

A prospective single center cohort study was performed. All consecutive patients with previously diagnosed ulcerative colitis undergoing endoscopic assessment were included. An evaluation at the time of the colonoscopy was performed. Demographic, clinical, analytical, endoscopic and histological data was collected. Disease clearance was defined as clinical (Simple Clinical Colitis Activity Index = 0), endoscopic (Mayo endoscopic subscore = 0) and histological (Geboes score ≤ 1) remission.

Results and Discussions

68 patients were included (61.8% male). Median age was 50 ± 14.7 years. 31 (45.6%) patients were asymptomatic, of whom 71% (n=22) also had analytical response. A combined clinical, analytical and endoscopic remission was present in 16 patients. Disease clearance was found in 8 (11,8%) patients. Disease clearance was not statistically associated with gender, age, age at diagnosis, time from diagnosis, family history of inflammatory bowel disease, smoking status, extension of disease or medication taken. A statistically significant difference was found between rates of endoscopic and histologic response ($p < 0.001$).

Conclusions

Ulcerative colitis' progressive behavior makes the discovery of an appropriate therapeutic goal imperious. Nevertheless, with the available drugs and strategies, disease clearance is achieved in a small minority of patients.

Epstein-Barr virus infection in patients with inflammatory bowel diseases in the Moscow region

Mrs. Ekaterina Lomakina¹, Pavel Makarchuk¹, Dilyara Safina^{2,3}

¹Moscow Regional Research And Clinical Institute (moniki), Moscow, Russian Federation, ²Kazan State Medical University, Kazan, Russian Federation. , Kazan, Russian Federation, ³IQVIA, Moscow, Russian Federation, Moscow, Russian Federation

Introduction

It is well known that patients with inflammatory bowel diseases (IBD) undergoing therapy with corticosteroids, immunosuppressants and biologics should be considered as immunocompromised patients. Epstein-Barr virus (EBV) is one of the common opportunistic pathogens that can cause a significant number of diseases in immunocompromised hosts.

Aim&Methods: Aim of the study was to evaluate the prevalence of EBV infection among patients with IBD in the Moscow region on the background of different types of therapy. A total of 1652 IBD patients were included in the study, who were hospitalized due to an exacerbation: ulcerative colitis (1323 patients) and Crohn's Disease (329 patients). EBV antibodies (IgG and IgM) were determined by ELISA in blood.

Results

The presence of an active EBV infection was defined as elevated level of EBV IgM in the blood which was identified in 7% (119) of patients with IBD. At the same time, active EBV infection was detected only in patients with moderate or severe IBD - in 36% and 64%, respectively.

EBV infection was most often observed on the background of prednisolone (53 patients (44.5%)) and combination of prednisolone and azathioprine therapy (54 patients (45.3%)). There was one (0.8%) patient who was treated with mesalazine, 9 (7.5%) – azathioprine, 2 (1.9%) – anti-TNF agents, respectively. A total of 43 (36%) patients had signs of refractory to the provided therapy. There were no cases of neoplasia in patients with EBV infection in the present study.

Conclusion

Signs of an active EBV infection were observed in 7% of IBD patients included in the study. Active EBV infection could aggravate the symptoms of IBD exacerbation and sometimes manifests as a "false-refractory" to therapy. It is required to examine all IBD patients for the presence of opportunistic infections, especially during exacerbation and before immunosuppressive therapy initiation.

Fingolimod ameliorates experimental colitis by modulating Akkermansia muciniphila abundance and the STAT3/Th17 axis

Seungcheon Yang², Associate Professor Han Hee Lee¹, **Prof. Bo-in Lee¹**, JooYeon Jhun², Jin-Sil Park², Sun Shim Choi³, Go Eun Park³, Sun-Hee Hwang³, JeongWon Choi², Keun-Hyung Cho², Kun Hee Lee², Ji Hyun Shin¹, Professor Mi-La Cho²

¹Department of Internal Medicine, Seoul St. Mary's Hospital, The Catholic University Of Korea, Seoul, South Korea, ²The Rheumatism Research Center, Catholic Research Institute of Medical Science, College of Medicine, The Catholic University of Korea, Seoul, South Korea, ³Division of Biomedical Convergence, College of Biomedical Science, Institute of Bioscience & Biotechnology, Kangwon National University, Chuncheon, South Korea

The targeting of sphingosine-1-phosphate (S1P) signaling is an emerging therapeutic strategy for immune-mediated diseases, including inflammatory bowel disease (IBD). Although gut microbiota play a crucial role in the pathogenesis of IBD, little information is available on how microbiota are changed by S1P receptor modulators. We investigated the effects of fingolimod on the immune system and gut microbiota in mice with colitis induced by dextran sulfate sodium (DSS). Fingolimod prevented weight loss and decreased levels of inflammatory cytokines (tumor necrosis factor- α , IL-1 β , IL-6, and IL-17) in the colon. It also reduced the expression of fibrotic markers (α -smooth muscle actin, collagen type I, and transforming growth factor- β) in the colon. Expression of Th17 and Treg cells increased in ex vivo spleens and mesenteric lymph nodes of fingolimod-treated mice with DSS-induced colitis. However, fingolimod inhibited IL-17 expression in mouse CD4+ T cells and peripheral blood mononuclear cells of patients with ulcerative colitis (UC) in vitro by regulating signal transducer and activator of transcription 3. The composition of the gut microbiome was significantly altered in fingolimod-treated mice, and fingolimod significantly increased the Firmicutes:Bacteroidetes ratio. At the species level, Akkermansia muciniphila was significantly increased in fingolimod-treated mice. The gut microbiota of patients with UC was different from that of healthy controls. The Firmicutes:Bacteroidetes ratio decreased and A. muciniphila decreased significantly in patients with UC. These data suggest that fingolimod has a therapeutic effect on IBD by regulating proinflammatory signals and restoring the profile of gut microbiota.

Crohn's disease-specific diet in pediatrics patients in Al Jalila children's hospital

Dr. Ali Alsarhan^{1,2}, Dr Rehab Al-Jasmi^{1,2}, Dr Christos Tzivinikos^{1,2}

¹Aljalila children's specialty hospital, DUBai, United Arab Emirates, ²Mohamad bin rashid univeristy , Dubai, UAE

Background

Crohn's disease and inflammatory bowel disease, in general, have been increasing significantly. For that, many modalities of treatment have shown promising results including diet modification. In our study, we are looking at Crohn's disease dietary management for induction and subsequently maintenance of treatment. The main question was how feasible was applying this approach and what difficulties the patient and his parents faced.

Methodology

We have reviewed the patients using the electronic medical system. We had 28 patients who were diagnosed with Crohn's disease and used the diet plan to induce remission or maintenance. In the next step, we used a questionnaire that was filled up by both parents and the patient himself regarding the difficulties they face while using the special diet. At the end, data was reviewed and the main findings were highlighted using basic measures (mean, mode and average).

Results and Discussions

We have found that the cohort had used the special diet for a various duration ranging from 2 weeks up to 2.5 years. in 39% of the cases, special diet was initiated before the use of medications and biological agents. All patients opted to start with Crohn's disease exclusion diet which provided 50 % of calories by Milk. The response was inconsistent due to poor compliance. on 57 % of the patients were able to bear with the dietary plan beyond 12 weeks. Patients reported the following factors that caused non-compliance: Lack of family support (71%) Cost (64%), intolerance (14%), and Poor follow-up plan (7%).

Conclusions

Dietary management of Patients with Crohn's disease is a suitable treatment with a very good safety profile. Unfortunately, many factors might contribute to poor compliance and failure of treatment. We must address these factors to improve the compliance of this treatment modality and use it more frequently.

Hepatobiliary manifestations in inflammatory bowel disease: a histological appraisal in 101 patients

Dr. Emanuel Dias¹, Dr. Patrícia Andrade¹, Prof. Susana Lopes¹, Dr. Raquel Gonçalves¹, Dr. Pedro Marílio Cardoso¹, Dr. Rui Gaspar¹, Dr. Hélder Cardoso¹, Dr. Joanne Lopes², Prof. Fátima Carneiro², Prof. Guilherme Macedo¹

¹Gastroenterology Department, Centro Hospitalar Universitário De São João, Porto, Portugal, ²Pathology Department, Centro Hospitalar Universitário de São João, Porto, Portugal

Background and purpose

Inflammatory bowel disease (IBD) may be associated with a wide range of hepatobiliary manifestations. Approximately 30% of patients with IBD develop liver biochemical abnormalities during disease course that may represent hepatobiliary diseases related to IBD or drug adverse events. We aimed to characterize the spectrum of hepatobiliary disorders in patients with IBD who underwent liver biopsy for sustained altered liver function tests (LFT).

Methods

Retrospective study of all patients with IBD who underwent liver biopsy between January 2010 and December 2020 for sustained altered LFT, defined as elevation for at least 6 months of aspartate aminotransferase, alanine aminotransferase, gamma glutamyl transferase, alkaline phosphatase or total bilirubin.

Results

A total of 101 patients were included with mean age of 44.42 ± 13.27 years; 63 (62.4%) were male. The most common form of IBD was Crohn's disease in 62 (61.4%). Median time interval between liver test abnormalities and biopsy was 14 months (7-36). Mesalamine was used in 55.7% of patients, azathioprine in 54.5% and biological agents in 46.5% (most commonly infliximab). Altered LFT consisted of isolated elevation of transaminases in 43.0%, a cholestatic pattern in 18.6% and a mixed pattern in 38.4%. The most commonly diagnosed hepatobiliary disorders were non-alcoholic fatty liver disease (NAFLD) in 33 patients (32.7%), drug toxicity in 30 (29.7%), autoimmune hepatitis (AIH) in 13 (12.9%) and primary sclerosing cholangitis (PSC) in 13 (12.9%). We also identified 4 cases of alcoholic liver disease, 3 cases of primary biliary cholangitis (PBC) and 1 case of nodular regenerative hyperplasia, amyloidosis, PSC/AIH overlap syndrome, hemochromatosis, and alpha-1 antitrypsin deficiency.

Conclusions

Abnormal LFT in IBD patients had a wide range of etiologies and, in a significant number of cases, histology was essential for reaching a correct diagnosis. NAFLD, drug toxicity, AIH and PSC were the most common hepatobiliary disorders.

Impact of anti TNF- α treatment on surgery rate in inflammatory bowel disease patients: first experience in Albania

Dr. Marsela Sina¹, Dr. Xhensila Pemaj¹, Dr. Skerdi Prifti¹, Dr. Dorina Osmanaj¹

¹University Clinic of Gastroenterology, University Hospital Center Mother Teresa, , Albania

Background and Purpose

Anti-tumor necrosis factor (anti TNF- α) agents changed the treatment of Inflammatory Bowel Disease (IBD), Crohn's disease (CD), and Ulcerative Colitis (UC), with improved clinical outcomes, mucosal healing. The aim of this study was to evaluate the role of anti TNF- α on surgery on IBD patients

Methodology

220 moderate-to-severe IBD patients admitted at the University Clinic of Gastrohepatology between 2016-2021, performed Ileocolonoscopy before starting biologic therapy and during treatment. Mayo score (TMS) and Crohn's disease activity index (CDAI) were used to evaluate disease activity in UC/CD patients. Mucosal healing (MH) was defined as Mayo Endoscopic Subscore (MES) ≤ 1 . Clinical remission was defined as TMS ≤ 2 points, or CDAI < 150 points.

Results and Discussions

220 IBD patients (22 CD, 198 UC), mean age 46 ± 15.0 , 50.5%, males were analyzed. 85 (38.6 %) received biologic therapy (48 IFX, 37 ADA). 26 (11.8%) underwent surgery (5 on anti TNF- α ; 21 anti TNF- α naïve); On patients receiving IFX therapy, Mayo score decreased significantly to the 104th week, ($p < 0.01$). Rate of mucosal healing was 33% at week 54 and lower at week 104 (29.4 %).

On ADA therapy patients, clinical remission was achieved in 45.5% at week 54, 40.0% at week 104, with significant statistically difference between weeks ($p = 0.01$). Mucosal healing was 43% at week 54 and 40% at week 104.

Rate of surgical intervention was significantly higher in CD vs UC (31.8% vs 10.1%, $p = 0.003$). Surgery rate was lower in patients receiving biologics compared to other patients (5.8% vs 15.5%, $p = 0.022$). 1 patient underwent colectomy during anti TNF- α treatment. 4 patients underwent surgery within one year after biologic therapy.

Conclusions

Anti TNF- α agents are effective inducing clinical remission and mucosal healing of colonic mucosa. It reduces colectomy in IBD patients.

Prevalence of tuberculosis infection in inflammatory bowel disease patients under biologic therapy: should we re-test during treatment?

Dr. Marsela Sina¹, Dr Xhensila Pemaj¹, Dr. Skerdi Prifti¹, Dr. Dorina Osmanaj¹, Dr. Adea Koçollari¹

¹University Clinic of Gastroenterology, University Hospital Center Mother Teresa, Tirana, Albania

Background and purpose

Inflammatory bowel disease (IBD) patients receiving anti-tumour necrosis factor (anti-TNF) therapy, are at risk for developing infectious diseases. Beside recommendations for latent tuberculosis (LTB) diagnosis, and prophylactic treatment before starting biologic, there are no recommendations for re-testing patients for tuberculosis (TB) while on treatment. Our aim was to evaluate the presence of LTB/TB before and during anti-TNF treatment.

Methodology

A single-center prospective study, included consecutive IBD patients whom started anti-TNF treatment between 2016 and 2020. Screening for LTB was considered positive based on: tuberculin test (TST) ≥ 5 mm, positive Interferon Gamma Release Test (IGRA) and a negative chest X-ray. Active TB infection (ATB) was confirmed by CT scan, sputum stain for mycobacterium tuberculosis and/or biopsy. Chi-square test was used for statistical analysis.

Results and Discussions

We included 71 patients of mean age 44.4 ± 15.2 years, 50.7% males, 80.2% ulcerative colitis (UC). 54% started infliximab and 46% adalimumab. Median follow-up was 26 months. Prevalence of LTB was 9.9% (7 patients). All patients underwent oral isoniazid prophylaxis for 6 months. 4.2% [3 patients: 1 UC and 2 Crohn's disease (CD)], developed ATB after a median of 9.6 months of treatment. Among patients who tested positive for LTB, only one developed severe pulmonary disease 17 months after adalimumab was initiated. Among patients who tested negative for LTB, 2 CD patients developed ATB (atypical form) at 3 and 9 months after infliximab treatment respectively. ATB was found more frequently in CD (2/14) than in UC (1/57) patients ($p=0.036$).

Conclusions

Our study showed a significant prevalence of LTB among IBD patients. 6 months of isoniazid prophylactic therapy may not be always effective. ATB was present particularly in CD patients. Periodical TB testing while on biologic treatment, seems to be indispensable.

Comparing Charlson and Elixhauser comorbidity indices in treated and untreated Inflammatory bowel disease

Mrs. Irena Teterina¹, Ms. Eva Petrošina³, Mrs. Viktorija Mokricka⁴, Dr. Juris Pokrotnieks^{2,4}

¹Rīga Stradiņš University, Faculty of Pharmacy, Department of Pharmacology, Riga, Latvia, ²Rīga Stradiņš University, Faculty of Medicine, Department of Internal diseases, Riga, Latvia, ³Rīga Stradiņš University, Faculty of Medicine, Statistical unit, Riga, Latvia, ⁴Pauls Stradiņš Clinical University Hospital, Riga, Latvia

Background

Inflammatory bowel diseases (IBD) are frequently accompanied by comorbidities due to systemic autoimmune process, however it is not clear how IBD treatment impacts burden of comorbidities. The aim of the study was to quantify burden of comorbidities in treated and not treated IBD patients.

Methodology

Population of incident IBD patients from Latvian National Health Service reimbursed medicines database matched on age and gender was analyzed for the period of 2014-2018, with follow up (FUP) till 2019. Incident patients with IBD (ICD-10 code K50 and K51) were identified in the reimbursed medicines database as individuals with at least 5 reimbursed medicines prescriptions, and with at least 3 months of treatment. Relative control group - patients having only 1 prescription for IBD, as these are patients who were not adherent to IBD therapy or initially misdiagnosed with IBD. To determine comorbidity burden Charlson (CCI) and Elixhauser (ECI) comorbidity indices were used. Samples were analyzed using Welch Two Sample t-test. Correlation between CCI and ECI was assessed using Pearson's correlation test.

Results

187 CD (age 10–88 years) and 1137 UC (age 1-95) incident patients and equivalent number of controls were included into analysis. In treated and untreated CD patients CCI and ECI at start was similar, $p > 0.05$. At the end of FUP treated CD patients had significantly lower CCI and ECI than untreated CD patients - CCI - 0.60 (SD 1.11) vs 0.94 (SD 1.37), $p = 0.010$; ECI 2.1 (SD 4.0) vs 3.2 (SD 5.1), $p = 0.019$. For UC untreated patients had higher both CCI and ECI at start ($p < 0.05$), similar observed at the end of FUP. Correlation coefficient between CCI and ECI for CD = 0.83, for UC = 0.81; for both $p < 0.05$.

Conclusion

Treated IBD patients have lower comorbidity burden than untreated IBD controls. Very strong correlation between CCI and ECI is observed.

Hospital cost of inflammatory bowel disease and its determinants in a multicenter study from Iran

Dr. Sulmaz Ghahramani¹, Dr. Kamran Bagheri Lankarani¹

¹*Shiraz University Of Medical Sciences, Shiraz, Iran*

Background

In era in which the cost of IBD patients is monitored, it seems that there is a change in pattern of healthcare costs. In the current study we aimed to assess the in-hospital costs of IBD over a period (2015- 2021) and identify predictors of higher patient payment and total hospital costs in hospitalized IBD patients.

Methods

This cross sectional study was accomplished in three hospitals of Iran. For the study purpose, the IBD admitted patients' demographic and clinical information as well as cost data were determined. Two non-parametric statistical procedures, classification and regression trees (CART) and quantile regression forests (QRF), were employed to identify the main factors related to hospital costs of IBD (dependent variable).

Results

During 7 years 930 admissions were occurred in these three hospitals. 22.3 percent of patients (138 of 619) were readmitted and 306 patients (49.4%) were male. The mean of age was 33 (SD=18.9) years. 454 patients (73.3%) had UC, and 165 patients (26.7%) had CD. Length of hospital stay was the most important variables related to hospital costs of IBD in models followed by age.

Conclusion

his study showed that there may be differences in hospital cost of IBD patients based on Hospital they are admitted. LOS and age were predictors of hospital cost in IBD in this study group.

predictive factors of endoscopic recurrence after surgery in Crohn's disease

Dr. Hicham Elbacha¹, pr nadia benzzoubeir, pr ikram errabih

¹*Ibn Sina Hospital - CHU Ibn Sina, Mohammed V University Rabat , Morocco*

Introduction

Surgery is often indicated in complicated or resistant to medical treatment crohn's disease. Recurrence is frequent after surgery, identification of recurrence risk factor's is essential to prevent and avoid second and third surgery and it's complication. The main objective of our study is to identify the predictive risk factors of postoperative recurrence using the rutgeerts score.

Methods

This is a single-center prospective study conducted within the department of "medicine b" chu ibn sina, between january 2010 and january 2022

We included all patients who underwent surgical resection (right ileocolic or colonic with ileocolic or ileorectal anastomosis) and who performed a postoperative colonoscopy. The rutgeerts score was evaluated in all these patients and classified as i0, i1, i2, i3 or i4. Farm sheet data was collected and analyzed using spss 20.0 software (spss, chicago, il).

Results

We included 112 patients with crohn disease ,the average age was 43.2 ± 6.4 , the sex ratio (m/f) =0.7. The main indication for surgery was stenosis in 70 of our patients (69%). 58 patients (57%) had an endoscopic recurrence with a rutgeerts score i.2, 3 patients (3%) had a rutgeerts i.3 and 11 patients (11%) had a rutgeerts i.4 . After therapeutic adaptation according to these scores, 36 (36%) progressed to clinical recurrence after a median period of 30 months [7-59], and 11 (9%) progressed to surgical recurrence after a median time of 48 months [23-73]

In multivariate analysis, two risk factors were predictive of recurrence: smoking (or = 1.17 - 95% ci: [1.13-2.19], p = 0.003) and mesalazine use: (or = 3.1 - 95% ci: [1.15-4.2], p = 0.002).

Conclusion

Patients should to be advised to stop smoking since tobacco is a recurrence risk factor

Patients with active disease or recurrence risk factors should be treated with other drugs than mesalazine .

Assessment Of Neutrophil Extracellular Trap Formation In Patients With Ulcerative Colitis

Dr. Galiya Bikbavova¹, M.D. Maria Livzan, Ph. D. Dmitry Novikov, Ph. D. Alexander Zolotov, MA Nikolay Kirichenko, MA Polina Pakhtusova

¹*Omsk State Medical University, Omsk, Russian Federation*

Background and Purpose

The study of IBD-specific mechanisms of the formation of neutrophil extracellular trap (NET) will make it possible to predict and monitor the response to therapy. The aim of the study was to evaluate neutrophil extracellular trap formation ability in patients with ulcerative colitis (UC). Methodology. The study included 12 patients with UC patients and Control group consisted of 22 healthy volunteers of comparable age with UC group. All patients of the UC group received therapy according to the clinical guidelines. The nontreated capacity of the isolated neutrophil fraction was determined in vitro in Control group and UC group using an original technique, developed by the authors (Method for detection of neutrophil extracellular traps in supratially stained blood product / Novikov Dmitry (RU), Zolotov Alexander (RU), Kirichenko Nikolay (RU), Mordyk Anna (RU) // Patent for invention 2768152C1, 23.03.2022. Application №2021129097 from 06.10.2021).

Results and Discussions

UC patients exhibited a statistically significant increase in early NETosis cells ($p=4.49 \times 10^{-5}$), cloudy traps ($p=9.44 \times 10^{-10}$) and filamentous traps ($p=2.04 \times 10^{-9}$) compared to the control group. The bacterial uptake rate by neutrophil traps in UC patients was statistically significantly lower than that observed in the control group ($p=0.0016$). Cloudy NETs are generally observed in immunopathological conditions. This type of NETs has a finely dispersed, unstructured, "dust-like" configuration, which is less effective with regard to bacterial capture. The predominance of cloudy NETs over filamentous NETs in patients with UC may contribute to the predominance of damaging effects of netosis over positive ones. The peculiarities of NETosis in patients with UC can be explained by therapeutic intervention as well as by the peculiarities of pathogenesis of the disease itself, which is characterized by an autoimmune component. Conclusions. Studying the influence of the role of NETosis on the course and prognosis of UC is a promising research area.

Smoking as a trigger factor in the development of ulcerative colitis

Dr. Galiya Bikbavova¹, professor Maria Livzan, Ms Darya Tikhonravova, Dr Tatyana Tretyakova, Dr Tatyana Panova ¹Omsk State Medical University, Omsk, Russian Federation

Background

purpose Smoking is considered as one of the trigger determining the development of UC. The purpose of the study is to reveal the associative relationships of smoking and the characteristics of the UC course.

Methods

A case-control study was conducted. Patients with an established diagnosis in accordance with actual clinical guidelines were included. 157 patients were interviewed: 72 men (46%), 85 women (54%) of the average age 43.8 years ($SD \pm 15.2$). Proctitis was diagnosed in 8% of patients, left-sided lesion-44%, total-48%. The average duration of the disease was 7 years ($SD \pm 7.9$): left-sided -7.6 ($SD \pm 8.3$) years, proctitis -7 ($SD \pm 8.0$) years, total - 6.2 ($SD \pm 7.7$) years. The comparison group included 56 healthy respondents: 37 men (66%), 19 women (34%), the mean age 40.4 years ($SD \pm 15.2$). The Mann-Whitney, Fisher and Pearson criteria were used. Results. In the group of patients with UC, more than half of the respondents noted smoking in the past or at the present time (46.5% and 7%). In the control group, 77% of respondents had never smoked (Chi-square-15.3 $p < 0.001$). Among smokers, the chance of the UC developing was 3.8 higher (95% CI 1.9-7.6). In 48% of patients with UC, the debut of the disease was observed 5 years or more after dropping smoking. When analyzing the number of cigarettes smoked in the comparison groups, there were no statistically significant differences. Among patients who had ever abused smoking, there was a high incidence of total damage, in patients without a history of smoking there were left-sided lesions (left-sided Chi-square-4.2 $p < 0.04$; total Chi-square-6.493 $p < 0.01$). The duration of the anamnesis does not affect the prevalence of the process. Conclusions. Smoking acts as a trigger that contributes to the development of UC, regardless of the number of the smoked cigarettes. In smoking patients the entire large intestine was involved in the pathological process significantly more often.

Adalimumab efficacy for management of inflammatory bowel disease in southwest of Iran

Prof. Pezhman Alavinejad¹, Dr Sana Delavari¹, Dr Abazar Parsi¹, Dr Ali Akbar Shayesteh¹

¹Ahvaz Jundishapur university of medical sciences, Ahvaz, Iran

Introduction

This study designed to evaluate the efficacy of Adalimumab in southwest of Iran.

Methods: During this prospective, observational study, patients with active IBD whom referred to the IBD clinic were included and the effectiveness of treatment including clinical remission rate, disease activity index, clinical response and side effects related to Adalimumab injection in weeks 0, 12, 24 and 52 after treatment evaluated and compared.

Results

A total of 71 patients with mean age of 29 years included. 37 patients diagnosed with UC (52.1%, 20 male and 17 female) and 34 patients with CD (47.8%, 22 male and 12 female). The time to remission in UC group was significantly longer than CD (10.05 months vs. 1.71 months; $P < 0.0001$). Clinical remission rate (≥ 2 points reduction in mayo score) in week 12 among UC patients after treatment with Adalimumab was 67.5% (25 cases) and raised to 100% (all of the UC patients) in weeks 24 and 52 after treatment. None of UC patients experienced disease recurrence. In Crohn's patients, CDAI decreased significantly during treatment time ($P < 0.0001$) but all of them (100%) experienced disease recurrence of after a mean of 2.59 ± 0.55 months (between 2 and 4 months) after treatment with Adalimumab ($P < 0.0001$). Failure of treatment was observed in 94.1% of Crohn's patients (32 cases) while none of the UC patients had treatment failure ($P < 0.0001$). There were no complications related to Adalimumab and nobody need colectomy during the study period.

Conclusions

Adalimumab has a positive effect on improving clinical symptoms, reducing disease activity, prevention of disease recurrent and need to colectomy in moderate to severe UC patients but has no efficacy in improvement of CD patients and failure of treatment observe in most of these patients. Adalimumab could be a therapeutic option for management of ulcerative colitis with prior failure of treatment.

Adherence to biological treatment in inflammatory bowel diseases patients during COVID-19 pandemic period, 1-year experience at Cleveland Clinic Abu Dhabi

Dr. Zaher Koutoubi¹, Joud Fansa², Lamaa Al Khas², Razan Atiya Atiya²

¹Cleveland Clinic Abu Dhabi, Digestive Disease Institute, Abu Dhabi, United Arab Emirates, ²Cleveland Clinic Abu Dhabi, Department of Pharmacy, Abu Dhabi, United Arab Emirates

Background and Purpose

There have been significant burdens on the healthcare systems during COVID-19 pandemic, which might worsen the outcomes of inflammatory bowel disease (IBD). During the pandemic, there was disruption in several services, lost of follow up, and several medication refills delays. The aim of the study is to review the adherence to biological treatment in IBD patients at Cleveland Clinic Abu Dhabi (CCAD) during the pandemic period, and to identify the reasons behind the non-adherence to the treatment, such as the inability to come to the hospital to receive the treatment, or if there is delay in receiving the medications on time.

Methodology

This is a retrospective and prospective study to evaluate the adherence to biological treatment during COVID-19 pandemic at CCAD between the 1st of January to the 31st of December 2020. The reasons for non-adherence were; fear of acquiring COVID-19 infection, challenges in accessing the medical care, delay in delivering the medication, or acquiring COVID-19 infection.

Results and Discussions

A total of 260 patients with IBD receiving biologics were identified, 205 (79%) with Crohn's Disease, 55 (21%) with Ulcerative Colitis. 137 (53%) responded to the phone calls. 81(59%) received the medication on time. 56 (41%) did not received the medication on time due to different reasons like fear of acquiring COVID-19 infection 2 (3.6%), challenges in accessing the medical care 9 (16%), diagnosed with COVID-19 infection 3 (5.3%), delay in delivery the medication 5 (9%), insurance approval 13 (23%), not ordering medications 6 (11%), personal reasons (patients fear to take medication to decrease immunity, patients want to try herbal medication, pregnancy, patient received COVID-19 vaccine) in 18 (32%).

Conclusions

59% of patients received their treatment on time. Most reasons for not receiving the treatment on time were insurance approval, and challenges in accessing the medical care.

Incidence of Perianal Crohn's Disease, the rate and type of Surgery in a tertiary care center at Cleveland Clinic Abu Dhabi

Dr. Zaher Koutoubi¹, Dr. Shafik Sidani¹, Nouran Yasser Elhenawy Yasser Elhenawy²

¹Cleveland Clinic Abu Dhabi, , United Arab Emirates, ²Royal College of Surgeons in Ireland, Bahrain, , Bahrain

Background and Purpose

Perianal Crohn's Disease (PCD) is a debilitating condition, negatively impacting patients' quality of life. The aim of the study was to calculate the incidence and types of surgery for PCD in the UAE.

Methods

This is a retrospective study, the data was obtained from the Inflammatory Bowel Disease Registry at Cleveland Clinic Abu Dhabi. Patients with Crohn's disease were identified. Age, gender, nationality, family history of inflammatory bowel disease (IBD), smoking status, presence or absence of PCD, and type of surgery performed were extracted.

Results

899 patients with IBD were identified, 499 (55%) with Crohn's Disease and 400 (45%) with Ulcerative Colitis. Of those with Crohn's Disease, 194 (39%) had PCD. 13% has family history of IBD. The average age was 34. Forty-seven (24%) patients with PCD were smokers. One hundred thirty-nine (72%) underwent surgery, of which 40% had seton placement, 12% had incision and drainage, 23% had both seton placement and incision and drainage, 44% had partial or complete fistulotomy.

Conclusion

The incidence of PCD in our patient is high (39%). The rate of surgery was high (72%). Most types of surgeries performed were seton placement.

Efficacy of self-expandable metal STENTS (SEMS) in overpassing malignant bilioduodenal obstruction

Dr dimitrios paikos², prof. Ioannis moschos¹, dr nikolaos rerchanidis², dr nikolaos tsiamperas², dr athanasios paikos², prof vasileios papaziogas² ¹international hellenic university, thessaloniki, greece, ²genimatas hospital, thessaloniki, greece

Background/Aims

Endoscopic stenting using self-expandable metal stents (SEMS) is a commonly used and minimally invasive palliative treatment in cases of bilioduodenal obstruction. This study aims to evaluate the efficacy of SEMS in restoring biliary and gastrointestinal flow in patients presenting with malignant obstruction.

Materials and Methods

Patients who underwent double stenting (DS) from January 2013 to February 2022 were analyzed retrospectively with regard to their demographic characteristics, the site and nature of the strictures, success rates, complications and survival time.

Results

A total of 41 patients were enrolled. In 27 patients, biliary obstruction occurred before the onset of duodenal obstruction (in average 115 days) (group 1). In 10 patients biliary obstruction occurred concurrently with duodenal obstruction (group 2). In 4 patients duodenal obstruction preceded the biliary obstruction (in average 135 days) (group 3). The duodenal strictures were proximal to the papilla in 20 patients, adjacent to the papilla in 15 patients and distal to the papilla in 6 patients. The majority of biliary strictures were in the distal third of the bile duct (34/41 patients). Duodenal SEMS were successfully deployed in all patients. Combined endoscopic stenting was successful in 99% of patients in group 1, 83% of patients in group 2 and 100% of patients in group 3. Early complications occurred in 4%, while 16% had late complications. The overall average survival after combined stenting was 120 days (range 7–430 days).

Conclusion

- 1) Biliary stenting through the mesh of the duodenal SEMS is technically feasible and has a high success rate.
- 2) Double stenting is safe and effective for malignant bilioduodenal obstruction. The majority of patients needed no additional intervention during their palliation period.

Method of instrumental diagnosis of SOD to justify conservative therapy

Prof. Alexey Korotkevich², Pavel Frolov³

¹Hospital Nr.29, Novokuznetsk, Russian Federation, ²Novokuznetsk Institute for Postgraduate Medical Education, Novokuznetsk, Russian Federation, ³Emergency Hospital, Kemerovo, Russian Federation

Background and Purpose

After exclusion of SOD type 3 from the Rome-4 criteria, the number of patients with unclear functional pain did not decrease. The aim of the study was to evaluate the possibility of duodenoscopy with submucosal injection of novocaine solution as a diagnostic test of SOD/functional pain.

Methods

Continuous cohort study 2019-2021. 17 people (15 women, 2 men) with intact gallbladder. Complaints of vague epigastric and subcostal pain. During duodenoscopy, we performed postbulbar blockade (PBB) by submucosal injection of 10 ml of 0.5% novocaine/lidocaine solution near of the papilla area. We evaluated the change in the fact and quality of pain. The experience of diagnostic duodenoscopy in similar 12 patients and the experience of ERCP in 10 patients with SOD type 3 in 2012-2015 were used for comparison. Statistical analysis was performed using Statistica 10 software (StatSoft, Russia). Chi-square test, Fisher's exact test were used ($p < 0.05$).

Results

After PBB, pain disappeared "on the needle" in 11 women and one man (72%), decreased significantly within 10 minutes in 2 women and one man (18%), remained unchanged in 1 case (7%), increased in 1 case (7%). At diagnostic duodenoscopy, no change was noted in 10 cases (83%), increased/emerged pain in 2 patients (17%) (Chi-square ($df=1$)= 17.65, $p= 0.0000$). Painful reaction to injection of contrast solution into the common bile duct was present in all patients (100%). After pain onset they underwent PBB, in which the disappearance of pain in 4 cases (40%), a sharp relief in 5 (50%), no effect in 1 patient (10%) (Chi-square ($df=1$)=19.00, $p=0.0000$). In patients with a negative or indifferent response to PBB, therapy with selective antispasmodics was not effective.

Conclusions

The use of PBB during duodenoscopy allows the determination of SOD with a good therapeutic perspective.

Endoscopy in morphological diagnosis of pancreatic cystic lesions

Ms. Valeriia Kamalova¹, PhD Evgeniy Solonitsyn¹, Ms. Anna Poddymova¹, Ms. Sabina Seyfedinova¹, Ms. Tatiana Shestopalova¹, Ms. Anna Shpomer¹, Ms. Viktoria Bogdanova¹

¹*Almazov National Medical Research Centre, Saint Petersburg, Russian Federation*

Background and Purpose

Pancreatic cystic lesions (PCLs) occur with a frequency of 2.4 to 13.5% and tend to increase with age. It is a group of heterogeneous diseases that has a extremely different treatment and diagnostic tactics and prognosis. Several endoscopic techniques are used for obtaining tissue for morphological diagnosis with different points of application and efficiency.

Methodology

We retrospectively analyzed the results of morphological diagnostics of patients with PCLs, which were performed in the period from 2012 to 2022.

Results and Discussions

The most commonly used technique was endoscopic ultrasonography with fine needle aspiration (EUS-FNA). It was performed in 49 cases with a technical and clinical success 100% and accuracy 63.6%. Combination of EUS-FNA with cyst fluid analysis for amylase and Carcinoembryonic antigen (CEA) levels was performed in 37 cases. Endoscopic ultrasound-guided through-the-needle biopsy (EUS-TTNB) was performed in 26 cases with technical and clinical success 96.2%. The study was informative in 73.1%, doubtful in 15.4%, uninformative in 11.5%. In 2 cases main pancreatic duct was dilated more than 5 mm so that biopsy was performed under visual control by standard forceps conducted through a pediatric gastroscope. In both cases the diagnosis of main duct intraductal papillary mucinous neoplasm (IPMN-MD) with low-grade and high-grade dysplasia was morphologically confirmed.

The diagnostic range of EUS-FNA varied within narrow limits allowing to differentiate only mucinous from non-mucinous PCLs but after implementation of TTNB precise morphological diagnostics with determination of degree of dysplasia became possible.

Adverse events occurred in 1/49 only in the EUS-FNA group. It was one case of intracystic hemorrhage which did not require additional intervention.

Conclusions

Methods of obtaining morphological material under EUS-control demonstrate a good profile of efficiency and safety. These methods are promising in the diagnostics of PCLs but still require further research, improvement of techniques and tools.

The difference between structural changes in the pancreas in chronic pancreatitis, diabetes mellitus and IBD.

Mrs. Ekaterina Lomakina¹, Anastasiya Budzinskaya¹

¹*Moscow Regional Research And Clinical Institute (MONIKI), Moscow, Russian Federation*

Background

Endosonographic examination (EUS) is the most objective in the verifying of structural changes of the pancreas due to the high sensitivity of the method.

Aim

To determine the difference in the structural changes of the pancreas in chronic pancreatitis (CP), diabetes mellitus (DM) and inflammatory bowel diseases (IBD).

Methods: EUS of the pancreas was performed in 40 patients with ulcerative colitis (10), Crohn's disease (8), DM (8), CP (8). A control study was conducted in 7 healthy volunteers. All patients underwent EUS with an assessment of the parenchyma, pancreatic ducts and measurement of the strain ratio by elastometry in the head, body and tail of the pancreas. Statistical processing of the results was carried out using the Student's criterion.

Results

Patients with ulcerative colitis had parenchymal disorders in 90% of patients, ductal – in 20%; with Crohn's disease - 87.5% and 37.5%, respectively, with DM – 75% and 100%, with CP – 75% and 25%. In the control group only parenchymal criteria were identified in 50% of cases. Statistically significant in comparison with the control group was the difference in the number of changes in the parenchyma in patients with IBD, while the pathology of the ducts was significantly higher in the group of patients with DM. The strain ratio was statistically significantly higher in patients with Crohn's disease in the head and body of the pancreas, in the body - with ulcerative colitis, in the head - with CP.

Conclusion

The results of EUS demonstrate different structural changes of the pancreas in various pathologies. With IBD, the pancreatic parenchyma is mainly affected, whereas with CP and DM– the ductal system is affected. The strain ratio is the highest in IBD and DM in the body of the pancreas, in CP – in the head of the pancreas.

Long-term outcomes of ampullary adenoma according to resected margin status after endoscopic papillectomy: Analysis of factors related to clinical outcomes

Dr. Junghwan Lee¹, Prof. Dong Wook Oh¹, Prof. Tae Jun Song¹, Prof. Do Hyun Park¹, Prof. Sang Soo Lee¹, Prof. Sung Koo Lee¹, Prof. Myung-Hwan Kim¹, Prof. Dong Wan Seo¹

¹Department of Gastroenterology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea

Background and Aims

Endoscopic papillectomy (EP) for benign ampullary neoplasm has been increasingly performed as an alternative to surgery. The post-EP resection margins are often positive or indeterminate. The long-term outcomes were compared between the resected margin negative (RMN) group and resected margin positive/indeterminate (RMPI) group.

Methods

This retrospective analysis included all patients with ampullary adenoma without evidence of adenocarcinoma who underwent EP from 2004 to 2016. We included patients with follow-up for at least 2 years after EP. Cox proportional hazards model was used to analyze the risk factors for recurrence and residual lesion.

Results

Among 129 total patients in RMN group (n=82) and RMPI group (n=47), there was no significant differences in demographics, tumor size, histologic grade, and En bloc resection rate between groups. During mean 71.7 ± 39.8 months of follow-up, RMPI group showed higher recurrence rate compared with RMN group (RMN: 12/82, 14.6% vs. RMPI: 16/27, 34%, $p = 0.019$). The RMPI group received more additional endoscopic treatment than RMN group (mean number of procedures: RMN: 1.3 ± 1.0 vs. RMPI: 1.7 ± 1.6 , $p = 0.121$). Nonetheless, the recurrences were successfully managed by endoscopically for both group (RMN: 9/12, 75% vs. RMPI: 12/16, 75%). Intraductal extension ($p < 0.001$, HR 13.06), submucosal injection ($p = 0.02$, HR 2.57), and high-grade dysplasia ($p = 0.01$, HR 2.74) were the significant risk factors for recurrence. Submucosal injection ($p = 0.009$, HR 4.11) was the only significant risk factor for residual lesion.

Conclusions

Although resected margin positive/indeterminate cases after EP showed higher rate of recurrence at the long-term follow-up compared with resected margin negative cases, endoscopic treatment appears to be effective with favorable long-term outcomes. Submucosal injection prior to resection may be associated with increased risk of recurrence and residual lesion.

Experience with digital peroral cholangioscopy using SpyGlass DS in different reference centers in gastroenterology in Colombia: Case series.

Cristian Florez Sarmiento Cristian Florez Sarmiento², Viviana Parra-Izquierdo Viviana Parra-Izquierdo², Juan Sebastian Frías Ordoñez Juan Sebastian Frías Ordoñez³, Julian Parga Bermudez Julián Parga Bermudez¹, Jesús David Castillo Jesús David Castillo¹, Charlyn Stefania Rodriguez Charlyn Stefania Rodriguez¹, Víctor Rodriguez Víctor Rodriguez¹

¹Gastroadvanced, Bogota, Colombia, ²Hospital Internacional de Colombia, Bucaramanga, Colombia, ³Department of Epidemiology, El Bosque University, Bogota, Colombia

Background and purpose

Biliopancreatic diseases are frequent in clinical practice. Endoscopic retrograde cholangiopancreatography represents the main diagnostic and therapeutic tool for management, however, it requires fluoroscopy and has many limitations. SpyGlass DS is a peroral cholangioscopy system with improved image quality and configuration, associated with usefulness, high resolution rates and safety. Currently, there is diversity in its use and scarce information about its implementation, including outcomes and adverse events. The aim of this study is to describe the experience of using SpyGlass DS in several reference hospitals in gastroenterology in Colombia, mentioning its efficacy and possible adverse events.

Methods

Observational study (case series). We report the experience with digital peroral cholangioscopy using the SpyGlass - SpyScope DS II Catheter system from February 2018 to March 2022

Results

The main indication was choledocholithiasis (n:204), followed by biliary stricture (n:40) and pancreatolithiasis (n:16). 49.2% were men, mean age was 58.6 years, and clinically with predominance of abdominal pain (80.5%) and jaundice (86.1%). All cases had previous diagnostic imaging (computed tomography, magnetic resonance imaging or ultrasound), 98.07% previous endoscopic Retrograde Cholangiopancreatography (n: 255), and 75% biliary plastic stent. Laser was used in 78/220 patients and electrohydraulic lithotripsy in 142/220 patients, with single-session resolution rates of 96.15% and 95.07%, respectively. Seven cases required a second lithotripsy session, and 3 patients required surgical management, one for pancreatolithiasis with baseline pancreas divisum and 2 for hepatolithiasis. 40/260 patients had biliary stricture, 32/40 with malignant findings (cholangiocarcinoma) and 8/40 with benign pathology (primary sclerosing cholangitis, nonspecific inflammatory changes) after histopathological studies. As complications, 2.5% reported bacteremia, being more frequent in cases of stricture (n: 5). The average postoperative stay was 2.04 days.

Conclusions

In our country, the use of SpyGlass DS is feasible, being a safe tool and effective for diagnosis and treatment of biliary lesions.

Experience with the use of a liquid-content intragastric balloon for the management of low and moderate risk obesity in a Colombian referral center

Cristian Florez Sarmiento Cristian Florez Sarmiento², Viviana Parra-Izquierdo Viviana Parra-Izquierdo², Juan Sebastian Frías Ordoñez Juan Sebastian Frías Ordoñez³, Elaine Jaimes Valderrama Elaine Jaimes Valderrama¹, Jesús David Castillo Jesús David Castillo¹, Charlyn Stefania Rodriguez Charlyn Stefania Rodriguez¹, Víctor Rodriguez Víctor Rodriguez¹, María Isabel Piñeros María Isabel Piñeros¹, Jenny Alvarado Jenny Alvarado¹
¹Gastroadvanced IPS, Bogota, Colombia, ²Hospital Internacional de Colombia, Bucaramanga, Colombia, ³Department of Epidemiology. Faculty of Medicine. El Bosque University, Bogota, Colombia

Background and purpose

Obesity is considered a chronic disease that is difficult to manage. The intragastric balloon (IGB) is in an intermediate step between medical and surgical management being an attractive option for being temporary, reversible, minimally invasive, safe and effective for weight loss. Liquid-filled IGB have emerged as a safe and effective option for the management of obesity, there is little information about the results of its implementation in low and moderate risk obesity. The aim of this study is to evaluate the implementation of the liquid content BIG in individuals with low and moderate risk obesity in terms of weight loss, safety and tolerance at 4, 6 and 12 months of treatment.

Methods

A prospective and descriptive observational study was carried out by means of convenience sampling, taking as the source population patients with low and moderate risk obesity (BMI 30 to 40 kg/m²). Analyzed variables included: sex, age, initial and final weight, % weight loss and side effects.

Results

109 subjects were included. 82/109 (75.22%) patients were women, the average weight was 87.22kg, with an average BMI of 31.59kg / m². Three marks were used (Orbera n: 103, Spatz 3: n: 3, and Elipse: n: 3). The weight loss carried out presented important differences when analyzing by months and brands: Elipse 4 months (-4.6kg), Spatz 3: 3 months (-7kg), Orbera: 6 months (15.2kg), Orbera 12 months: (19.7 kg). The average BMI reduction was achieved to 27.71kg / m². The complication rate was 2.75%, 2 (1.83%) due to intolerance (abdominal pain), and one due to acute appendicitis (0.91%).

Conclusions: the results found are encouraging in the minimally invasive management of obesity, confirming liquid filling IGB is a safe and effective device. An implantation period of at least 12 months is considered optimal for low and moderate risk obesity.

Endoscopic Spectrum Of Neuroendocrine Tumor From Different Primary Origins

Dr. Syedda Ayesha¹, Dr Faisal Waseem, Dr Om Parkash, Dr Zeeshan Uddin, Dr Adeel Ur Rehman

¹The Aga Khan University Hospital, Karachi, Pakistan

Neuroendocrine tumors (NET) are rare, with gastrointestinal tract (GI) and lungs being the most frequent origins. These tumors are most often diagnosed by endoscopists and usually also recognized as incidentally found lesions. Endoscopic ultrasound (EUS) is a good modality to study these neoplasm and therefore better indication for the treatment options.

We summarize six cases with different origin of NET diagnosed via EUS & GI Endoscopy with different spectrum of lesions.

Case-1: 47 years old female, underwent EUS guided biopsy showing a large well defined mass in the head of pancreas. Biopsy favored well differentiated NET.

Case-2: 35 years old male, underwent EUS guided biopsy showing large > 5 cm solid-cum-cystic lesion in the head/uncinate process of pancreas. Biopsy consistent with well differentiated NET, WHO grade II.

Case-3: 51 years old female, presented with bleeding PR, underwent colonoscopy showing a large ulcerated friable fungating mass involving half of circumference starting from anal verge. Biopsy concluded as poorly differentiated NET, small cell type.

Case-4: 61 years old female, recently diagnosed with left breast Invasive ductal carcinoma, on staging Ct scan showed Porta-hepatis mass, EUS shows well-defined nodal vascular mass around 3cm dimensions at the porta hepatis and peri-gastric region. Biopsy reported as neoplastic lesion with neuroendocrine differentiation.

Case-5: 60 years old female, for her dyspeptic symptoms had upper GI endoscopy (OGD) showing sub mucosal nodule in D1, underwent EUS showing a well-defined tumor within layer 4 lamina propria of anterior wall of duodenal bulb, biopsy reported the mass as duodenal NET.

Case-6: 41 years old female with abdominal symptoms and anemia has OGD revealed polypoidal mass in gastric body, with EMR technique lesion was removed with R0 resection, biopsy revealed as NET.

NET can be found at various origins in the GI tract and has got good outcomes with early detection with imaging modalities and Gi endoscopy.

Contribution of endoscopic retrograde cholangiopancreatography in lithiasis pathology in the elderly over 75 years : results of a retrospective study

Dr. Ahlame Benhamdane¹, Tarik Addajou¹, Samir Mrabti¹, Asmae Sair¹, Reda Berraida¹, Ilham El Koti¹, Fedoua Rouibaa¹, Ahmed Benkirane¹, Hassan Seddik¹

¹Department of Gastroenterology, Military Hospital Mohammed V, Rabat, , Morocco

Background and Purpose:

The aim of this work is to determine the particularities and safety of ERCP in patients over 75 years of age by comparing its results with those of younger subjects.

Methods

A retrospective descriptive and analytical study was carried out from September 2003 to July 2022 including 122 patients, whose age was over 75 years and had undergone ERCP for lithiasis.

Results

Among 1080 ERCPs performed for lithiasis pathology, 12.6% were over 75 years old (n=122).

The sex ratio (M/F) was 0.96 compared to 0.6 for younger subjects (p=0.014).

18.9% of the patients had undergone cholecystectomy, 0.8% had a history of main biliary tract surgery (35.6%, 0.4% for younger subjects; p=0.004).

The indication for ERCP was bile ducts impaction by large stones in 60.6% (vs. 35.6%; p<0.001), acute lithiasis angiocholitis in 27% (vs. 17.6%; p=0.013) and acute lithiasis pancreatitis in 4.1% (vs. 10.3% for younger subjects; p=0.029).

The mean diameter of the main bile duct was 13.4±4.3 mm (p<0.001).

Primary vacuity of the main biliary duct was achieved in 64.8% of cases (compared to 78.8% in younger subjects; p=0.001), the use of additional endoscopic manoeuvres was 33.6% (18.5% in younger subjects), namely nasobiliary drain in 11.5%, sphincteroclose in 9.8%, prosthesis in 6.6%, mechanical lithotripsy in 3.3%, enlargement by endoscopic biliary sphincterotomy in 1.6%, and extracorporeal lithotripsy in 0.8% (p<0.001). The early complication rate after ERCP was 6.6% compared to 5.6% with no statistically significant difference (p=0.06).

The overall success rate was 88.4% compared to 92.5% in patients under 75 years of age (p=0.1).

In multivariate analysis, there was no significant difference in the efficacy of ERCP in lithiasis between subjects under and over 75 years old.

Conclusion

Although the overall success rate remains better in younger subjects, the results of ERCP in lithiasis in elderly subjects over 75 years of age remain satisfying, with no statistically significant difference in terms of the effectiveness of ERCP.

A Retrospective Study about Success Rate and Adverse Profile of Combination Technique of Traditional Sphincterotomy Cannulation and Rescue Needle Knife Incision in a Single Referral Center.

Dr Byung Hyo Cha¹

¹The View Hospital, Doha, Qatar, ²Sheikh Khalifa Specialty Hospital, RAK, United Arab Emirates

Background & Aims

Endoscopic retrograde cholangiopancreatography (ERCP) is a minimally invasive endoscopic procedure that is crucial for pancreato-biliary diseases and selective cannulation is the most important step. However, even an experienced endoscopist can face cannulation failure in up to 15-30% of cases in the first ERCP when standard methods alone are used. This study was performed to estimate the success rate and adverse event of combined technique of conventional sphincterotomy (SPT) cannulation plus needle knife incision (NKI).

Methods

We performed a retrospective review on medical records of all ERCP cases in Sheikh Khalifa Specialty Hospital, UAE. For six years, SPT naïve patients except altered-anatomy cases were enrolled and their procedure times, cannulation success rates, radiation exposures, and adverse events were measured between SPT only and rescue NKI groups.

Results

Among total 336 SPT naïve ERCP cases, 278 (84.3%) were succeeded by SPT only and 58 (17.3%) by rescue NKI technique due to difficult cannulation. Biliary cannulation was succeeded in 56 cases (96.7%) by using SPT cannulation with rescue NKI except only two failure cases due to severe stricture. The rescue NKI group showed longer mean procedure time (34'15" vs 49'30", $p=0.009$), mean cannulation time (1'59" vs. 16'23", $p<0.001$), and more frequent inadvertent pancreatic duct cannulation (27.6% vs. 52.2%, $p=0.036$). However, there was no increased adverse event rates in rescue NKI group compared to SPT only group: post-ERCP hyperamylasemia/hyperlipasemia (16.5% vs. 34.8%, $p=0.080$), pancreatitis (3.9% vs. 4.3%, $p=0.883$), cholangitis (4.7% vs. 4.3%, $p=0.695$), and no perforation case.

Conclusions

The SPT with rescue NKI technique can be used in the difficult biliary cannulation cases during ERCP safely and effectively.

High Sero-prevalence of Hepatitis E Virus among Healthy Blood Donors at a Tertiary Care Hospital of an Endemic Country: Is it safe to take the risk?

Dr. Adeel Rahat¹, Prof. Lubna Kamani¹

¹Liaquat National Hospital, Karachi, Pakistan

Background

Hepatitis E Virus (HEV) is a major health issue globally and it is endemic in Pakistan. Immunosuppressed individuals and pregnant women are at higher risk of developing acute liver failure and chronic hepatitis secondary to HEV. Routine screening of blood donors for HEV has not yet been implemented in Pakistan and other endemic South Asian countries. There is dearth of literature regarding the seroprevalence and viremia of HEV among healthy blood donors.

Methodology

A cross-sectional study was conducted at Liaquat National Hospital, Karachi. Blood samples were obtained for HBsAg, Anti-HCV Antibody, Anti-HIV Antibody, Syphilis, Malaria, ALT and HEV antibodies (IgG and IgM by ELISA kits (NovaLisa by Novatec immundiagnostica GmbH)) after written informed consent. Positive samples for anti-HEV IgM were subjected to detect HEV-RNA by real-time reverse transcription polymerase chain reaction assay (RealStar® HEV RT-PCR Kit 2.0 by Altona Diagnostics)

Results

Total of 515 adult participants were enrolled with a mean age of 30.08 ± 7.56 years. Mean ALT levels of 43.05 ± 32.45 IU/L were observed. HEV IgG was positive in 365 participants (70.9%) with ALT levels of 43.61 ± 34.03 . 31 participants (6%) were positive for Anti HEV IgM with ALT levels of 44.06 ± 69.21 . All IgM positive were subjected to PCR testing which came out negative (PCR detection limit >100 copies/mL). Patients who tested positive for HBsAg, Anti-HCV Ab, Syphilis and HIV were 11 (2.1%), 9 (1.7%), 9 (1.7%) and 0 (0%) respectively.

Conclusion

High seroprevalence of Anti HEV IgM among healthy blood donors emphasizes the need for robust measures of routine screening for HEV of all blood products in endemic countries to prevent transfusion dependent transmission with special consideration when the recipients are either immunocompromised or pregnant.

Status of antibody titer after Vaccination against Hepatitis B Infection in Patients with End-Stage Renal Disease on Maintenance Hemodialysis Experience in a tertiary care center.

Dr. Sarker Sajjad¹

¹*Birdem General Hospital, Dhaka, Bangladesh*

Background

Infection with the Hepatitis B virus (HBV) causes high morbidity. HBV vaccination is important for patients receiving renal replacement treatment or approaching the end stage renal disease (ESRD). The aim of our study was to find out whether 0, 1, 2, and 6 months HBV vaccination schedule produces a better immune response than the 0, 1, 2 months, or 0,1,6 months schedule and to find out the overall immune status (effectiveness) of HBV vaccine in a patient with ESRD on maintenance hemodialysis.

Methods

This cross sectional observational study was conducted in the Department of Gastrointestinal, BIRDEM Dhaka, Bangladesh, from December 2020 to November 2021. A total of 100 ESRD patients were selected for the study who were on maintenance hemodialysis. Data were collected on a single setting about their past vaccination status. An Anti-HBs antibody test was sent to see the immunity status after vaccination against HBV in the same setting.

Results

Among all respondents, we found 37(37.0%) of the patients with protective antibody (>100 IU/l), 29(29.0%) with low protective antibody (10-100 IU/L), and the remaining 34(34.0%) respondents were found to have nonprotective antibody (<10 IU/L). Highest percentage of patient 54% achieved protective antibody with 0,1,2,6 months scheduled compared to only 27% and 19% with 0,1,2 and 0,1,6 months schedule respectively. There anti HBs (titer) Mean \pm SD were 220.80 \pm 304.01 with 0,1,2 months, 426.14 \pm 490.99 with 0,1,2,6 months and 293.97 \pm 449.62 and 0,1,6 months schedule respectively.

Conclusion

Patients who received vaccine scheduled used 0,1,2,6 months achieved the highest anti-HBs titer and the highest percentage of patients (54%) developed a protective antibody with the same schedule. So we recommend that vaccination schedule (0,1,2,6 months) should be preferred for better protection against HBV infection and antibodies should be checked at least 1 month after the last vaccine dose to check sufficient immune response.

Vitamin B12 deficiency: unusual cause of jaundice in Adults

Dr. Osama Mohammad¹, Dr. Fouad Haddad¹, Dr Khaoula El Montacer¹

¹*University hospital center Ibn Rochd, Casablanca, Casablanca, Morocco*

Introduction

vitamin B12 deficiency may present by chronic jaundice as well as hematological and neurological manifestations similar to that of chronic liver disease. Treatment by Hydroxocobalamin reverses these manifestations.

Methodology (Case Study)

A 52-year-old male patient known to be diabetic treated with insulin presented with yellowish discoloration of eyes, loss of appetite and weight loss for the past 6 months associated with bile-stained vomit, watery diarrhea and diffuse abdominal pain during the last 2 days. Moreover, he also reported a recent deterioration in memory . He had no history of pale stools or bone pain. The physical examination showed icterus, pallor, glasgow coma scale 14/15, febrile of 38c.

Discussion

Vitamin B 12 deficiency is known to cause hematological and neurological disease but rarely jaundice. Anemia usually presents as easy fatigability and pallor with investigations showing moderate to severe anemia or pancytopenia and macrocytic red blood cells. Due to hemolysis, mildly elevated levels of indirect bilirubin are commonly found; however, high bilirubin levels are rarely reported. In our case, high levels of indirect bilirubin associated with direct bilirubin were observed at presentation probably due to the associated septicemia and urine infection. The neurological disease presents commonly with complaints of tingling sensation of extremities, weakness of lower limbs and features of subacute combined degeneration of cord. Vitamin B12 deficiency also has been linked to psychiatric disorders, including impaired memory, irritability, depression, dementia and, rarely, psychosis .

Treatment by hydroxocobalamin 5000 1inj/day for 1 week, then 1inj/week for 1 month then 1inj/ month, after treating any underlying infection, can reverse hematological symptoms including jaundice and may also ameliorate neurological one

Conclusion

Chronic jaundice is an unusual presentation of vitamin B12 deficiency mimicking chronic liver failure and can be reversed by treatment.

Performance of two simplified HBV treatment criteria (TREAT-B score and WHO guidelines) in Burkina Faso, West Africa.

Prof. Arsène Roger SOMBIÉ¹, Dr Yusuke SHIMAKAWA¹, Dr Pauline BOUCHERON¹, Dr Liêm Binh Luong NGUYEN¹, Pr Maud LEMOINE¹

¹*Department of Hepatology and Gastroenterology, Centre Hospitalier Universitaire Yalgado Ouédraogo, Ouagadougou, Burkina Faso, OUAGADOUGOU, BURKINA FASO*

Background and Purpose

To achieve the WHO's global strategy of eliminating HBV infection by 2030, it is vital to scale up clinical staging and treatment services in resource-limited countries. However, access to the conventional diagnostic tests to examine treatment eligibility, particularly HBV DNA quantification and liver biopsy/Fibroscan, is still limited. We report the performance of TREAT-B (Treatment Eligibility in Africa for the Hepatitis B Virus) and simplified WHO criteria to indicate the reference treatment eligibility criteria by the European Association for the Study of the Liver (EASL) 2017 guidelines in Burkina Faso.

Methods

We classified the patients' eligibility for treatment using the reference EASL 2017 criteria. We then applied TREAT-B, a simple score based on solely ALT level and hepatitis B e antigen (HBeAg), to a cohort of treatment-naïve patients with chronic HBV infection in Burkina Faso. Assessment included HBeAg (Elecsys, Roche Diagnostics), HBV DNA PCR (Cobas Taqman) and fibrosis assessment (liver biopsy, FibroScan, and FibroTest).

Results

In 222 patients, median age was 34 years and 150 (67.6%) were men. Treatment was indicated in 63 (28.4%), 91 (41.0%), and 73 (32.9%) patients, based on the reference EASL criteria, TREAT-B, and simplified WHO criteria, respectively. Using the EASL 2017 as a reference, the AUROC of TREAT-B (0.76; 95% CI 0.69–0.83) was significantly higher than that of the WHO criteria (0.68; 95% CI 0.61–0.75, $p=0.03$). The sensitivity and specificity were 69.8% and 70.4% for TREAT-B with a cutoff of ≥ 2 , and 58.7% and 77.4% for the simplified WHO criteria to indicate the treatment eligibility by the EASL guidelines.

Conclusions

The sensitivity of TREAT-B observed in Burkina Faso may be suboptimal; nevertheless, from a public health perspective, reduced cost and improved operational characteristics can compensate for the low sensitivity of a test. This may lead to better access to diagnostic services.

Usefulness Of Propranolol As A Predictor Of The Severity Of The Grade Of Esophageal Varices According To Endoscopic Observation

Dr. Karla Ruiz¹, Dra. Maizury Garzón¹, Dra. Verónica Bonilla¹, Dr. Rubén Muñoz¹, Dr. Marcelo Alcívar², Dra. Priscila Martínez¹

¹Hospital Abel Gilbert Pontón-Guayaquil, Guayaquil, Ecuador, ²Clínica Kennedy, Guayaquil, Ecuador

Background and purpose

Beta-blockers have a significant impact in the treatment of portal hypertension, but their effectiveness in preventing variceal bleeding in population groups of patients in Ecuador is unknown.

Objective: to determine the usefulness of propranolol as a predictor of severity of the degree of esophageal varices according to endoscopic observation.

Methodology

Retrospective, cross-sectional, analytical study, non-experimental design and relational level. The sample is made up of 212 patients divided into two groups of 106 patients each: propranolol group and control group (ligation of esophageal varices). Held at the Abel Gilbert Pontón hospital from January 1 to December 31, 2019.

Results

The propranolol group presented varices in 74.5% and the ligation group presented varices in 97.2%. Small varices were observed in the propranolol group 88.7% and in the ligation group it was 28.3%. In the propranolol group, 12.3% of red dots were found and in the ligation group, 63.2% were found. 2.8% of the propranolol group presented variceal bleeding and 6.6% bled in the group that underwent ligation of esophageal varices. There were 5.7% adverse effects in the propranolol group and 0% in the ligation group. The adverse effects analyzed were: fatigue (2.8%), headache (0.9%), sleep disorders (1.9%), arrhythmias (0.9%) and depression (0.9%). There is a statistically significant association between the use of propranolol and the presence of esophageal varices (p-value: 0.003, odd ratio: 0.009), small varices (p-value: 0.001, odd ratio: 0.06), red dots (p-value: 0.0001, odd ratio: 0.081), adverse effects (p-value: 0.013, odd ratio: 2.060). This statistically significant association was not found with the presence of medium-sized varices, large varices and variceal bleeding (p-value > 0.05).

Conclusions

Propranolol is an effective method of primary prophylaxis to reduce the size of esophageal varices and prevent bleeding in patients with liver cirrhosis, with a minimal prevalence of adverse effects.

Application of scatter-distribution coefficient (SC-TSI) for identification of hepatic steatosis in patients from South-East European region

Dr. Alexander Berkovski¹, Professor Nikolay Nelassov², Miss Elizaveta Palenaja³, Dr. Maxim Morgunov², Professor Alexander Zubov³, Professor Sergey Vorobiev², Dr. Andrey Palenyy², Dr. Olga Eroshenko²

¹Dr. Berkovski Family medicine clinic, Arad, Israel, ²Rostov State Medical University, Rostov-on-Don, Russia, ³Donetsk National Medical University, Donetsk, Ukraine

Background and Purpose

The aim of this study was to determine the cut-off value of ultrasonographic scatter-distribution coefficient (SC-TSI) and analyze parameters of sensitivity (S) and specificity (Sp) of SC-TSI in detection of steatosis in patients from South-East European region with nonalcoholic fatty liver disease (NAFLD).

Methods

The presence of steatosis in patients with NAFLD was determined according to clinical, laboratory and ultrasound data (Bedogni's Fatty Liver Index and B-mode Hamaguchi's scoring system). 37 subjects (male 16, mean age 49.1 years (95% CI 44.7-53.6)) without steatosis signs (1-st group) and 35 subjects (male 17, mean age 52.9 years (95% CI 48.5-57.3)) with steatosis signs (2-d group) underwent sonographic exam with utilization of ultrasound quantitative technique and evaluation of SC-TSI (scanner RS 85, Samsung Medison, convex probe CA1-7A). SC-TSI was registered during breath holding. We used manufacturer predefined B-mode presets, right intercostal approach, and positioned standard sampling box in the hepatic parenchyma at least 2 cm below the liver capsule while avoiding areas with large vessels and reverberation artifacts or shadowing. Three data acquisitions at the same location of sampling box in the right lobe were performed consistently and mean value of the coefficient was calculated. Receiver-operating characteristic analysis (ROC) was used and cut-off value of SC-TSI, S, Sp, area under the curve (AUC) in identification of steatosis were determined.

Results

Mean values of SC-TSI in 1-st and 2-d groups were 82.0 (95% CI 79.4-84.6) and 98.8 (95% CI 97.6-100.1) ($p < 0.0001$). The cut-off value of SC-TSI > 92 differentiated subjects of 1-st from 2-d group with S of 97.1% and Sp of 89.2%. AUC appeared to be 0.989.

Conclusions

SC-TSI is effective in detection of steatosis in patients with NAFLD. The cut-off value of SC-TSI for identification of steatosis in patients from South-East European region was determined.

Sonographic attenuation coefficient (AC - TAI) in detection of hepatic steatosis in patients from South - Eastern region of Europe

Dr. Alexander Berkovski¹, Professor Nikolay Nelassov², Dr. Maxim Morgunov², Miss Elizaveta Palenaja³, Professor Alexander Zubov³, Dr. Andrey Palenyy², Dr. Olga Eroshenko², Dr. Maria Rasskazova²

¹Maccabi Health Fund, Arad, Israel, ²Rostov State Medical University, Rostov-on-Don, Russia, ³Donetsk National Medical University, Donetsk, Ukraine

Background and Purpose

The cut-off value of sonographic attenuation coefficient (AC-TAI) for separation of subjects without and with steatosis was determined for Korean population. The aim of this study was to find the cut-off values of AC-TAI for optimal separation of subjects from South-Eastern region of Europe without and with steatosis.

Methods

The presence of steatosis in patients with non-alcoholic fatty liver disease (NAFLD) was determined according to clinical, laboratory and ultrasound data, including Bedogni's Fatty Liver Index and B-mode Hamaguchi's scoring system. 37 subjects (male 16, mean age 49.1 years (95% CI 44.7-53.6)) without signs of steatosis (1-st group) and 35 subjects (male 17, mean age 52.9 years (95% CI 48.5-57.3)) with steatosis signs (2-d group) underwent sonographic exam with evaluation of AC-TAI (ultrasound machine RS 85, Samsung Medison). We used manufacturer predefined B-mode presets, right intercostal approach, and positioned standard sampling box in the hepatic parenchyma at least 2 cm below the liver capsule while avoiding areas with large vessels and reverberation artifacts or shadowing. AC-TAI was registered during breath holding. The measurements were repeated three times and average value of the coefficient was calculated. Receiver-operating characteristic analysis curve (ROC) was generated and cut-off value of AC-TAI, area under the curve (AUC), sensitivity (S), specificity (Sp) in identification of steatosis were determined.

Results

Mean values of AC-TAI in 1-st and 2-d groups were 0.57 (95% CI 0.54-0.60) and 0.77 (95% CI 0.73-0.81) dB/cm/MHz ($p < 0.0001$). The cut-off value of TAI > 0.64 separated subjects of 1-st and 2-d group with S of 88.6% and Sp of 86.5%. AUC was 0.925.

Conclusions

AC-TAI is effective in detection of steatosis in patients with NAFLD. The cut-off value of AC-TAI in detection of steatosis for subjects from South-Eastern region of Europe was determined.

PNPLA3, MBOAT7 & GCKR risk alleles increase susceptibility towards chronic liver disease in Pakistani subjects

Mr. Asad Mehmood Raja¹, Mr. Muhammad Mobeen Zafar¹, Dr. Muhammad Saqlain¹, Prof. Dr. Ghazala Kaukab Raja¹

¹UIBB, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Rawalpindi, Pakistan

Background and Purpose

Nonalcoholic fatty liver disease (NAFLD) is characterized by excess fat (>5%) without alcohol consumption. The disease could lead to advanced, irreversible liver damage; Fibrosis, cirrhosis or hepatocellular carcinoma (HCC). Major contributors of NAFLD are un-healthy life-style associated cardiometabolic dysregulations and genetic susceptibility. NAFLD candidate genes have been identified and reported for disease association in different world populations. Here we report genetic association of PNPLA3, MBOAT7 & GCKR risk variants and an additive effect of their risk alleles in biopsy proven cirrhotic and HCC (non-viral and viral) patients from Pakistan.

Methods

Study subjects were 587 liver biopsy proven cirrhosis and HCC patients with 164 controls of Pakistani origin. Selected SNP(s) of PNPLA3 (rs738409), MBOAT7 (rs641738) and GCKR (rs1260326) were genotyped by real-time PCR. Independent disease risk contributed by a variant or combined variants effect contributed by number of risk alleles carried (0, 1, 2) by an individual was evaluated by binary and multiple adjusted logistic regression models (Odds ratio/OR and 95% Confidence Intervals/CI).

Results

According to binary logistic analysis, PNPLA3 rs738409 led to 54% (OR 1.54(1.16-2.04) while MBOAT7 rs641738 (OR 1.35(1.06-1.73) and GCKR rs1260326 (OR 1.36(1.02-1.81) ~35% disease risk independently. In combined/additive effect analysis five groups each carrying 1, 2, 3, 4, and 5 copies of rs738409, rs641738 and rs1260326 risk alleles were identified. Each copy of a risk allele led to 1.47 folds disease risk with an highest 17.0 folds disease risk in individuals carrying 5 risk alleles.

Conclusions

Selected genetic variants independently led to a modest chronic liver disease risk (OR=1.35-1.54) which increased additively from 1.47 folds (OR=1.47) for single risk allele copy to 17.0 (OR=17.0) folds in 5 risk alleles carriers. In conclusion, PNPLA3 (rs738409), MBOAT7 (rs641738) and GCKR (rs1260326) variants increase risk of chronic liver disease in Pakistani subjects.

The role of Interleukin-17 in liver inflammation and fibrosis

Dr. Ivana Knezevic Stromar¹, dr Ivana Oreskovic², dr Marina Premuzic¹, dr Ante Gojevic³, prof. Silvija Cukovic Cavka^{1,2}, dr Maja Sirotkovic Skerlev^{2,5}, assist. prof. Natalija Dedić Plavetić^{4,5}, dr Fran Sedlić^{5,6}, dr Matea Majerovic¹, dr. M Vranic³, prof. Rajko Ostojic^{1,2}, prof. Stjepko Plestina^{5,6}, prof. Zeljko Krznaric^{1,2}, asist. prof. Ana Kulić⁴

¹Department of Gastroenterology and Hepatology, University Hospital Centre Zagreb, Zagreb, Croatia, ²School of Medicine University of Zagreb, Zagreb, Croatia, ³Department of Surgery, University Hospital Centre Zagreb, Zagreb, Croatia, ⁴Department of Oncology, Division of Pathophysiology and Experimental Oncology, University Hospital Centre Zagreb, Zagreb, Croatia, ⁵Department of Pathophysiology, University Hospital Center Zagreb, Zagreb, Croatia, ⁶Department of Oncology, University Hospital Centre Zagreb, Zagreb, Zagreb, Croatia

Background and Purpose

So far published data, have implicated IL-17 in the promotion of liver fibrosis since it facilitates the influx of inflammatory cells, leading to the expression of profibrogenic growth factors and activation of hepatic stellate cells, so it could be considered to be a profibrotic cytokine. The aim of this study was to investigate the presence and level of interleukin-17 in sera of patients with various liver diseases and healthy controls.

Methodology

Two hundred five (205) patients (age 21-84 years; median 60) with liver disease (33 with hepatocellular carcinoma (HCC), 51 with liver cirrhosis, 43 with viral hepatitis B or C, 50 with autoimmune liver disease (ALD), 21 with non-alcoholic fatty liver disease (NAFLD), 7 pts of non-defined inflammatory liver disease) and 28 healthy controls, were included. Serum interleukin-17 levels were measured by enzyme-linked immunosorbent assay (ELISA).

Results and Discussion

Levels of circulating of interleukin-17 in patients with liver disease of any origin (1,04 -86,99 pg/ml; Median 5,54 pg/ml) were significantly higher than those in healthy controls (1,04-10,22 pg/ml; Median 1,66). Highest levels were found in patients with liver cirrhosis (1,98-38,5 pg/mL; Median 9,8) while HCC, autoimmune liver diseases, NAFLD and viral hepatitis had lower levels (1,27-22 pg/mL; Median 5,7, 1.72-72 pg/mL; Median 3,5, 1,02-40,7 pg/mL; Median 4,7, 1,2-36,9pg/mL; Median 3,73 respectively) but still higher than the healthy controls. Statistically significant difference was found in interleukin-17 levels between patients with ALD and HCC (P=0.0073); ALD, viral hepatitis and HCC and cirrhosis p=0, 0001, p=0.0217, p=0,0023, respectively.

Conclusion

Our preliminary data showed that circulating IL17 could be a promising prognostic marker of liver inflammation and fibrosis level. We could also speculate about predicting development of HCC with a drop of IL17. Further investigations are needed to clarify the role of IL17 in inflammation and fibrosis.

Prevalence and characteristics of non-viral hepatitis-related HCC: a tertiary cancer center experience from India

Dr. Prachi Patil¹, Dr. Vaneet Jearth¹, Ms. Samiya Khan¹, Ms. Afreen Mohsin Khan¹, Dr Shaesta Mehta¹, Dr Sridhar Sundaram¹, Dr Shraddha Patkar², Dr Mahesh Goel², Mr Sanjay Talole³

¹Department of Digestive Diseases and Clinical Nutrition, Tata Memorial Hospital, Homi Bhabha National Institute, , Mumbai, India, ²Department of Surgical Oncology, Tata Memorial Hospital, Homi Bhabha National Institute, , Mumbai, India, ³Centre for Cancer Epidemiology, Tata Memorial Centre, Homi Bhabha National Institute, , Mumbai, India

Background and purpose

There has been an increasing prevalence of HCC of non-viral etiology mirroring the increasing prevalence of risk factors like nonalcoholic fatty liver disease (NAFLD). Unlike HBV/HCV-related HCC (HBHC-HCC), little is known about non-viral etiology HCC [Non-B Non-C (NBNC)- HCC]. We aimed to evaluate the prevalence and clinical features of patients with NBNC-HCC.

Methodology

508 consecutive untreated HCC patients were accrued on a prospective IEC-approved study at a tertiary cancer center in Mumbai. Patients with negative viral markers (HbsAg, Anti-HCV, IgG Anti-Hbc and HBV-DNA) were labeled as NBNC-HCC. Statistical analysis was done using SPSS (chi-square test for categorical data, unpaired t-test for normally distributed data and test for Median for non-normal continuous data).

Results and discussions

Overall, 87% patients were male [mean (\pm SD) age of 56 ± 12.8 years]. 39.4% had NBNC-HCC. 14.8% were young HCCs [age ≤ 40 years: NBNC-HCC:8% vs. HBHC-HCC:19.2%, p value =0.001]. The commonest etiology of HCC was HBV infection (47%) followed by NAFLD (21.9%) and HCV infection (10.4%). 78% (n=396) had cirrhosis at presentation [NBNC-HCC:71% vs. HBHC-HCC:82.5%, p value =0.002]. CTP A, B and C status were seen in 39.2 %, 28 % and 11.2 % respectively with no significant difference in both groups (p=0.36). The BCLC stage overall was A, B, C and D in 6.3%, 31.9%, 45.7% and 15.6% respectively with no significant difference in both groups (p=0.61). 46.1% had Portal vein thrombosis (PVT) [NBNC-HCC:40.5% vs. HBHC-HCC:49.7%, p value =0.043]. 21.5% had extra-hepatic metastasis [NBNC-HCC:19% vs. HBHC-HCC:23.1%, p value =0.33]. 32.28% patients were planned for BSC only.

Conclusion

Although HBV still remains the leading cause of HCC in India, NBNC-HCC accounts for 40% of all HCC cases. Patients with NBNC-HCC are older, with lesser incidence of cirrhosis or PVT and better-preserved liver function. Follow-up may yield more information about NBNC-HCC.

Epidemiological and therapeutic profile of HBV infection in patients with anti-CD 20 antibodies: A review of 56 cases

Dr. Nabila EL GASMI¹, Dr. ASMAA EL AZHARI¹, Pr Fz EL RHAOUSSI¹, Pr Mohamed TAHIRI¹, Pr Fouad HADDAD¹, Pr Wafaa HLIWA¹, Pr Ahmed BELLABAH¹, Pr Wafaa BADRE¹

¹*Hepato-gastro-enterology Department, Ibn Rochd University Hospital, Casablanca, Morocco*

Introduction

The use of immunosuppressive cytotoxic therapy in patients with chronic hepatitis B virus (HBV) is known to be associated with potentially fatal HBV reactivation. Anti-CD20 antibodies widely prescribed in hematology, are molecules with high risks of HBV reactivation even in patients with Hbs Ag(-).

The objectives of our work: description of the different indications of treatment, prevention of a possible reactivation of HBV in patients under anti-CD20 antibodies, the molecules used and the tolerance of the treatment.

Methods

This is a retrospective and descriptive study, conducted in the hepato-gastroenterology department of Casablanca.

We included 56 patients referred from the hematology department who were candidates for treatment with anti-CD20 antibodies, over a 3-year period from January 2018 to December 2020.

Results

The average age of our patients was 48 years with extremes ranging from 22 to 80 years, with female predominance (M/F:0.93).

The indications for treatment with anti-CD20 antibodies were: large B-cell lymphoma in 30 cases, chronic lymphocytic leukemia in 10 cases, Hodgkin's lymphoma in 6 cases, acute lymphoblastic leukemia in 4 cases, Burkitt's lymphoma in 4 cases, and mantle cell lymphoma in 2 cases.

5 of our patients had a chronic Hbe Ag(+) infection, i.e. 9% of cases, 25 had a chronic Hbe Ag(-) infection, i.e. 44.5%, 2 patients had a chronic Hbe Ag(-) infection, i.e. 3.5%, and 24 patients had an occult infection, i.e. 43% of cases.

All our patients were put on anti-viral treatment. 96% were put on Tenofovir. Entecavir was prescribed for 2 patients with chronic renal failure.

During the follow-up period, none of our patients showed any side effects of Tenofovir treatment, and no case of reactivation was observed.

Conclusion

Screening and treatment of HBV patients undergoing immunosuppressive cytotoxic therapy is recommended by all learned societies of hepatology, and this to avoid premature discontinuation of immunosuppressive therapies; progression of the underlying disease, but also potentially severe or even fatal hepatitis.

The Relationship Between Nafld And Hepatitis B: Ameliorating Or Aggravating? - A Systematic Review

Dr. Sarah Abere¹, Dr Boma Oyan

¹American Gastroenterology Association/ Society for gastroenterologist & hepatoogist in Nigeria, Port Harcourt, Nigeria

The relationship between nafld and hepatitis b: ameliorating or aggravating? - a systematic review

Abstract

Background and purpose

Chronic hepatitis b virus infection (chbv) is a global health challenge which has persisted despite universal vaccination against hepatitis b. The relationship between chbv and non-alcoholic fatty disease (nafld) remains unclear thus we performed a systematic review to elucidate the nature of this relationship and risk factors for non-alcoholic fatty liver disease in chbv.

Methodology

The accepted guideline for a systematic review was followed. English language based observational and case control studies on hepatitis b and nafld conducted in adult populations in asia and africa between 2010 -2021 were included in this systematic review. A prisma chart of the studies identified and selected was constructed. The basic demography and risk factors were explored. The quality of the studies was assessed using the modified newcastle-ottawa score for the assessment of non-randomized studies.

Result and discussion

11 out of 12,380 identified studies obtained from multiple databases were included in the systematic review comprising of 128,566 controls and 5177 cases. 6 of the included studies concluded that the relationship between hepatitis b infection and non-alcoholic fatty liver disease was ameliorating rr/or (95% ci){0.64 (0.42-0.95), 3.96 (2.10-7.48), 0.656 (0.379-1.134), 0.717(0.608-0.86), 0.94 (0.51-1.73), 0.37 (0.14-0.980), 0.83 (0.73-0.94)} while 5 of the studies reported an aggravating relationship { 0.0013 (1.52-34.76), 0.426 (p=0.001), 3.005(1.122-8.051), 3.60 (1.21-10.75)} between the exposure to hbv and the outcome of nafld. Risk factors for nafld elucidated were both metabolic and viral factors such as increased bmi, hyperglycaemia, raised triglycerides, metabolic syndrome, hyperuricemia and hepatitis b hbx protein.

Conclusions

Though the risk factors in all the included studies were similar, more studies support an ameliorating relationship between hbv and nafld. There was a dearth of african studies on the subject.

Evaluation Of Child-Pugh, Meld, And Meld-Na Scores In The Short-Term Prediction Of Mortality In Advanced Liver Disease At An Academic Institution, Nigeria.

Dr. Evaristus S. Chukwudike¹, Dr. Uchenna C. Okonkwo¹, Dr. Michael Iroezindu², Dr. Mbang Kooffreh-Ada¹, Dr. Asa-Eyo Itam¹, Dr. Iwasam S Agbor⁶, Dr Ukam Edadi¹, Dr. Aburu N. Araga¹, Dr. Nnennaya A. Ajayi³, Prof. Dennis Ndububa⁴, Dr. Akwi W. Asombang⁵

¹Department of Internal Medicine, University of Calabar Teaching Hospital, Calabar, Nigeria, ²Department of Medicine, University of Nigeria Teaching Hospital, Ituku/Ozalla, Enugu, Nigeria, ³Department of Internal Medicine, Alex Ekwueme Federal University Teaching Hospital, Abakaliki, Nigeria, ⁴Department of Medicine, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria, ⁵Interventional Endoscopy and Global Health Programs in Gastroenterology, Massachusetts General Hospital, Boston, USA, ⁶Department of Community Medicine, University of Calabar Teaching Hospital, Calabar, Nigeria

Introduction

Global prevalence of hepatitis B and C is 4 % and 2 %, respectively. Nigeria, with a population of 206 million, has a prevalence of 8.1 % (hepatitis B) and 1.1 % (hepatitis C). In Nigeria, chronic liver disease (CLD) constitutes 7.3% of all medical admissions, while HCC is the most common cause of cancer-related deaths in the medical wards. Child-Pugh (C-P) score, Model for end-stage liver disease (MELD) score, Model for end-stage liver disease with sodium (MELD-Na), and Paediatrics end-stage liver disease (PELD) have been developed to evaluate disease severity and outcome in CLD. There are no studies comparing the applicability of these three predictive scores in Nigeria.

We evaluated the performance of Child-Pugh, MELD, and MELD-Na scores in predicting short-term mortality in advanced liver disease.

Methods

We conducted a prospective longitudinal hospital-based study. Patients ≥ 18 years presenting to the hospital with liver cirrhosis or hepatocellular carcinoma were included in the study. Informed consent was obtained, a questionnaire for demographics and clinical history was administered, and a physical examination was performed. Laboratory data were obtained, and predictive scores were calculated (Child-Pugh, MELD, and MELD-Na scores). The patients were followed up for six months to assess mortality.

Results

A total of 112 patients (M: F ratio of 2:1, mean age of 41.5 years) were included in the final analysis. Mortality from advanced liver disease was 42% at three months and 67% at six months. There was a progressive increase in the proportion of death with rising Child-Pugh, MELD, and MELD-Na scores (AUROC curve of 0.70, 0.73, and 0.89), respectively.

Discussion

Child-Pugh, MELD, and MELD-Na predict higher mortality in ALD patients. The MELD and MELD-Na scores have a higher predictive value than Child-Pugh scores.

Conclusion- These scores are helpful for the prioritization of ALD patients to expedite interventions.

The role of hepatitis B sero-markers in the evaluation of chronic liver disease patients in Calabar, Nigeria.

Dr. Mbang Kooffreh-Ada¹, Dr Ubong Udoh², Dr Ogonna Nwankwo³, Dr Akaninyene Otu⁴, Dr Asa Itam-Eyo⁵, Dr Joan Ikobah⁶, Dr Uchenna Okonkwo¹, Dr Emmanuel Effa¹

¹Department of Internal Medicine, University Of Calabar, Calabar, Nigeria, ²Department of Microbiology & Parasitology, University Of Calabar, Calabar, Nigeria, ³Department of Community Medicine, University Of Calabar, Calabar, Nigeria, ⁴Foundation for Health Innovation & Development, Calabar, Nigeria, ⁵Department of Internal Medicine, University Of Calabar Teaching Hospital, Calabar, Nigeria, ⁶Department of Pediatrics, University Of Calabar, Calabar, Nigeria

Background and purpose

The clinical spectrum of chronic liver disease (CLD) ranges from chronic hepatitis to liver cirrhosis and hepatocellular carcinoma (HCC). Hepatitis B virus (HBV) sero-markers are vital in the work-up of CLD patients, particularly when evaluating CLD patients with negative viral markers. This study aimed to identify the sero-prevalence of HBV markers in a cohort of adult CLD patients in Calabar, Nigeria.

Methods

This preliminary report utilised an observational descriptive study design and is based on data (demographic, clinical and laboratory) from the Hepatitis Registry, University of Calabar Teaching Hospital. Data collected between August 2020 and April 2022 were extracted and analysed using the Statistical Package for Social Sciences version 20. Simple descriptive and inferential statistics were performed. Qualitative/ categorical variables were compared using the Chi-square tests. A p-value less than 0.05 was considered statistically significant. Following univariate analysis, logistic regression analysis was performed to identify variables that were independently associated with CLD and HCC.

Results

Data from 171 patients were included in the study. The median age of the study participants was 38.97±12.62 years. More than half of them were male (99, 57.9%). A majority (46, 35.0%) had chronic hepatitis. The presence of hepatitis B core antibody (HBcAb), was found in over a third (68, 39.8%) of the CLD cohorts. Bivariate analysis of the clinical presentation and laboratory findings among the CLD cohorts revealed that abdominal swelling, HBcAb, serum AST, ALT and alpha- fetoprotein were significantly associated with CLD ($p < 0.005$). However, these associations were not statistically significant on the binary logistic regression analysis for HCC and CLD.

Conclusion

Hepatitis B is prevalent in our environment and typically affects young male adults, with HBcAb being a common marker. Further research is required to clearly delineate the putative risk factors for CLD and HCC in this setting.

Living with Cirrhosis in the Era of COVID 19: The Impact of Omicron and the Threat to High Risk Populations

Dr. Prithi Choday¹, Dr. Pranav Barve^{1,2,3}

¹Hemet Global Medical Center, Hemet, United States, ²Southwest HealthCare, Wildomar, United States, ³Loma Linda University Murrieta Campus, Murrieta, United States

Background/Purpose

The cardinal symptoms of SAR-CoV-2 infection as the pandemic began in 2020 were cough, fever, and dyspnea, thus characterizing the virus as a predominantly pulmonary disease. While it is apparent that many patients presenting acutely to the hospital with COVID-19 infection have complaints of respiratory symptoms, other vital organs and systems are also being affected, one of which is the liver. The incidence of cirrhosis and other liver disease is on the rise across the world, however, the effect of COVID-19 in this population is understudied.

Methodology

We performed a comprehensive search through PubMed search using the keywords: COVID-19, SARs-COV-2, liver disease, liver injury, cirrhosis, and Omicron. In this article, we reviewed the spectrum of novel studies regarding COVID-19 induced liver injury, compiling data on the effects of the virus in various age and high-risk groups, particularly those with preexisting liver disease, to obtain a comprehensive understanding of this disease process. We also provide an update of the impact of the new Omicron variant and the changing nature of COVID-19 pathogenesis.

Results/Discussions

Almost half of COVID-19 hospitalized patients were found to have evidence of some degree of liver injury. Incidence and severity of liver injury in patients with underlying liver disease were even greater. According to the CDC, from August 1, 2020 to May 31, 2022 there have been a total of 4,745,738 COVID-19 hospital admissions. Considering the gravity of the COVID-19 pandemic and the incidence of liver injury in COVID-19 patients, it is imperative that we as clinicians understand the effects of the virus on the liver in order to prevent further harm to patients with underlying liver disease.

Conclusion

The incidence of liver injury in those with underlying liver disease, such as cirrhosis, is greater than that of the general population and warrants further research on the matter.

Serum Trace Element Alteration In Patients With Non-Alcoholic Fatty Liver Disease: An Evidence From Cross- Sectional Study

Mr Jatin Sharma¹, Dr Shalimar Shalimar¹, Dr Pooja Gupta¹

¹AIIMS, New Delhi, New Delhi, India

Abstract

Objectives

Trace elements play an essential role in metabolic functions of the liver; however, their levels get altered during pathophysiological stages. In this study, we aimed to evaluate and compare serum levels of selective trace elements namely Copper, Iron, Magnesium, Manganese, and Zinc between the non-alcoholic fatty liver disease (NAFLD) patients and healthy volunteers.

Methods

A cross sectional study was conducted by enrolling the NAFLD patients (n=170) and apparently healthy volunteers (n=62). Inductively coupled plasma- atomic emission spectrometry was used to quantify the serum levels of selected trace elements. We also measured serum levels of the TNF- α and malondialdehyde to investigate the effect of the NAFLD progression on trace elements.

Results

In NAFLD patients, serum Copper levels [88.5 (38.1, 286.7) $\mu\text{g/dL}$] were higher than healthy volunteers [74.9 (25.5, 148.8) $\mu\text{g/dL}$] with p value <0.001. In contrast, Zinc levels were lower in NAFLD group [107.3 (12, 270.6) $\mu\text{g/dL}$] as compared to health volunteers [125 (88.7, 261.1) $\mu\text{g/dL}$] with p value <0.001. Likewise, In the NAFLD patients, Iron, Magnesium, and Manganese levels were also lower than healthy volunteers with p value <0.001. Further, in TNF- α and Malondialdehyde levels were significantly higher in the NAFLD group as compared to healthy volunteers.

Conclusions

The NAFLD patients had significantly altered serum trace element profile as compared to healthy volunteers suggesting their role in pathogenesis. A trace element-based interventions can have potential therapeutic role in the management of the NAFLD.

Genistein and Sex Hormone Supplementation Ameliorated Fat Metabolism and Inflammation Through the Modification of HDAC3, PPAR δ , and NF- κ B Expression in Nonalcoholic Steatohepatitis Rat Model with Bilateral Orchidectomy

Mr. Fatist Okrit¹, Prof. Duangporn Werawatganon¹, Dr. Maneerat Chayanupatkul¹, Assoc. Prof. Prasong Siriviriyakul¹, Dr. Natcha Wanpiyarat²

¹*Department of Physiology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand,* ²*Department of Pathology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand*

Nonalcoholic steatohepatitis (NASH) is a progressive form of nonalcoholic fatty liver disease (NAFLD) that is characterized by hepatic inflammation and steatosis. Currently, there are minimal data on the risk of NASH in transgender women and the treatment options in this particular population. Testosterone supplement is undesirable in transgender women, and estrogen supplement is associated with a higher risk of breast cancer; therefore, a phytoestrogen called “genistein” might be a reasonable alternative to a hormone supplement in this setting. This study investigated the modification of histone deacetylase3 (HDAC3), peroxisome proliferator-activated receptor delta (PPAR δ) and nuclear factor kappa B (NF- κ B) in a NASH model of orchidectomized (ORX) rats fed with high fat high fructose (HFHF) diet. Male Sprague-Dawley rats (n=42) were randomly divided into seven groups; control group, HFHF group, ORX + standard diet group, ORX + HFHF group, ORX + HFHF diet + testosterone group (50mg/kg BW once weekly), ORX + HFHF diet + estradiol group (1.6 mg/kg BW daily), and ORX + HFHF diet + genistein group (16 mg/kg BW daily). The duration of the study was 6 weeks. Continuous variables were compared between groups using one-way analysis of variance (One-way ANOVA) and Tukey post-hoc test. Results showed that rats in the ORX+HFHF group had the highest degree of hepatic steatosis, lobular inflammation, hepatocyte ballooning and the highest percentage of positive Oil Red O staining area. The expression of HDAC3 and PPAR δ were down-regulated, whereas NF- κ B expression was increased in ORX+HFHF group when compared with control and ORX + standard diet groups. Testosterone, estradiol and genistein treatments improved histopathological features of NASH along with the reversal of HDAC3, PPAR δ and NF- κ B protein expression comparing with ORX+HFHF group. In conclusion, Genistein and sex hormone administration alleviated NASH through the up-regulation of HDAC3 and PPAR δ , and the suppression of NF- κ B expression.

An Unusual case of Acute Fatty Liver in Pregnancy at a public hospital in Nairobi, Kenya

Dr. Miriam Gatehi¹, Prof. Elly Ogutu¹, Dr. Stephen Onyango¹

¹Wgo, Nairobi, Kenya, Nairobi, Kenya

Acute fatty liver in pregnancy is a rare, life-threatening condition characterized by fatty infiltration of the liver leading to hepatic failure due to deficiency in foetal LCHAD (long chain 3-hydroxyacyl-CoA dehydrogenase). A 21-year-old female patient presented with a two-day history of jaundice, lethargy and decreased foetal movements at 33 weeks of pregnancy. On examination, she was sick looking, tachycardic with a normal BP. An emergency caesarian section was performed due to a non-reassuring foetal status. The baby was admitted to the NICU thereafter. Fever, abdominal distension, low platelets, an elevated BP and tachycardia were noted six hours after delivery. Her laboratory tests indicated elevated liver function tests, with INR of 2.2. Her diagnosis was HELLP syndrome with a differential of Sepsis. She was commenced on blood transfusions and antibiotics. A diagnostic laparotomy performed was negative. She subsequently developed fulminant liver failure and the Swanssen score indicate a high probability of Acute fatty liver of Pregnancy. Despite aggressive supportive care including fluids, transfusions, enteral feeding and dialysis, the patient succumbed on her 8th day post-op. In Conclusion, Acute fatty liver of pregnancy has a high morbidity and mortality and remains a diagnosis of exclusion. It has a median 36 weeks and Prompt delivery of the foetus should occur. Admission of the foetus to a monitored unit should occur and testing of Fetal long chain 3-hydroxy acyl-CoA dehydrogenase (LCHAD) deficiency undertaken due to the risk of foetal hypoxia. The mother should receive best supportive care.

GI complications associated with immunosuppressive medication after Liver Transplantation-Georgian Experience

Prof. Sophio Beridze¹, MD Marika Mortuladze¹

¹Batumi Shota Rustaveli State University, Batumi, Georgia, ²Batumi Shota Rustaveli State University, Batumi, Georgia

Background

Immunosuppressive drugs are the main therapy after liver transplantation. The goal of immunosuppressive therapy is to prevent the graft destructive immune response. The immunosuppressive drug-induced complications are as direct drug effects, as infectious complications, or both. All immunosuppressive drugs have a non-specific and extremely heterogeneous mechanism of action, but their main consequences and side-effects manifested by GI complications after Liver Transplantation can be Infections, Mucosal Injury and Ulceration, Biliary Tract Disease, Diverticular Disease, Perforation, Pancreatitis and Malignancy. The aim of the paper is to analyse and share Liver transplantation Immunosuppressive Therapy complications based on Georgian Experience, especially the degree and duration of gastrointestinal side effects.

Methods

The study used secondary data analysis to answer the research question. Information on interested variables were obtained from the medical documentations of patients' medical history in Batumi Referral Hospital. Study subjects were adult liver recipients who had liver transplantation at our center (Batumi, Referral Hospital) since 2015, totally 73 patients.

Results

According to secondary analysis of Medical cards of liver transplant recipients in our center show that out of 73 Liver recipients, median age of the patients was 50 years and most prevalent complication among them was diarrhea, 40% of patients had GI disorders before Transplantation. Immunosuppressive therapy was modified because of GI complications only in 4% of patients. No case for necessity to stop Immunosuppressive therapy.

Conclusions

The prevalence of GI complications in the liver transplant recipients in Batumi referral Hospital was approximately 40% and it showed impact on surveillance and the quality of the life of the recipients. All complications were managed with pharmacological therapy or with changes in immunosuppressive therapy.

Spontaneous bacterial peritonitis in alcoholic cirrhosis

Prof. Liri Cuko¹, Dr. Arlinda Hysen¹, Dr. Ledian Mulla¹, Dr. Adriana Babameto¹, Dr. Eva Shagla¹

¹*Mother Teresa University Hospital Center, Tirane, Albania*

Background

Spontaneous bacterial peritonitis (SBP) is one of the most common complications in cirrhosis with ascites, associated with high mortality. Various studies have shown that prevalence of SBP ranges from 20-30% in patients with cirrhosis. Not all cases are accompanied by obvious symptoms, making early diagnosis difficult.

Purpose

This study aims to evaluate the profile of spontaneous bacterial peritonitis in alcoholic cirrhosis, the assessment of liver function according to MELD score. This would help in establishing the diagnosis quickly, with the aim of improving the treatment protocols for these patients.

Methodology

This is a retrospective study, which considers all cases with decompensated alcoholic cirrhosis with SBP admitted to the Gastroenterology/Hepatology Department of QSUT during 2016-2020. The patients were divided into two groups, alcoholic cirrhosis with and without SBP. Data collection consists of information about the diagnosis, the degree of liver function damage, clinical and laboratory indicators and complications associated with SBP. Cases with SBP were confirmed by examination of the ascitic fluid where polymorphonuclear cells were $> 250 \text{ mm}^3$, and without recent intraabdominal surgical intervention. The SPSS statistical program version 25 was used for data analysis.

Results

In the study were included 115 patients average age of 54.15 ± 12.5 years. There were 112 males (97.3%) and 3 females (2.7%). In evaluating MELD score, it was seen higher in the group with SBP than without SBP ($p < 0.05$). The most frequent complications accompanying SBP were encephalopathy ($p < 0.004$), hepatorenal syndrome ($p < 0.004$), gastrointestinal hemorrhage ($p < 0.004$). From laboratory data, platelet count ($p < 0.015$), creatinine ($p < 0.006$), bilirubin ($p < 0.002$), INR ($p < 0.049$) and prothrombin level ($p < 0.002$) were seen as predictive factors.

Conclusions

The most predictive factors were decreased platelet count, increased level of INR, increased creatinine and decreased level of prothrombin. While the most frequent associated complications were hepatic encephalopathy, HRS, GI hemorrhage and jaundice.

Keywords

Cirrhosis, SBP, complications, predictive

Orthotopic Liver Transplantation For Primary Sclerosing Cholangitis – Different Indication Groups Outcomes, A Single Centre Experience

Dr. Mojmir Hlavaty¹, Dr. Pavel Drastich¹, Dr. Jan Brezina¹, Dr. Pavel Wohl¹, Mr. Istvan Modos², Prof. Julius Spicak¹, **Dr. Lukas Bajer¹**

¹IKEM, Hepatogastroenterology, Prague, Czech Republic, ²IKEM, IT Division, Prague, Czech Republic

Background and Purpose

Primary sclerosing cholangitis (PSC) is a progressive cholestatic disease leading to liver cirrhosis and need for liver transplantation (LTx). Patients with PSC have high lifetime risk for cholangiocarcinoma (CCC). The aim of this study was to compare patient outcome including survival rate and incidence of rPSC after OLTx in patients indicated for end-stage liver disease (ELD) and (NELD).

Methodology

We performed a retrospective study of 151 patients with PSC and PSC/AIH after LTx. Patients were divided into groups based on the indication for LTx – ELD (MELD score ≥ 15 , and Child-Pugh score ≥ 8 or liver cirrhosis related complications) and NELD (recurrent episodes of cholangitis, with >2 episodes of bacteremia or >1 episode of sepsis, impossible endoscopic treatment, intractable pruritus). The diagnosis of rPSC was based either on imaging studies or liver biopsies.

Results

Out of 151 patients who underwent LTx for PSC (n=117) and overlap PSC/AIH (n=35), 85 were indicated for ELD and 66 for NELD. The mean age at liver transplant was 46.88 years (95% CI [43.5064, 50.2689]) in ELD group and 41.00 (95% CI [37.0091, 45.006]) in NELD group. The mean time from diagnosis of PSC to LTx was 7.65 (95% CI [6.2659, 9.0371]) and 8.57 (95% CI [7.3185, 9.8243]) years respectively. Kaplan-Meier survival curve for rPSC (p=0.704), graft survival (p=0.908) and patient survival (p=0.620) showed no significant difference between both groups follow up. Recurrent PSC was diagnosed in 12.9% of ELD patients and 12.1% of NELD patients after median of 54.5 months. CCC was found in 6.6% (10/151) of liver explants.

Conclusion

The results of OLTx for PSC were excellent, there was no significant difference between ELD and NELD groups.

Supported by the Ministry of Health of the Czech Republic, grant nr. NU21J-06-00027.

Point Shearwave Elastography Techniques For The Assessment Of Liver Stiffness

Prof. Alina Popescu^{1,2}, Dr. Camelia Foncea^{1,2}, Dr. Raluca Lupusoru^{1,2,3}, Dr. Radu Cotrau^{1,2}, Prof. Roxana Sirli^{1,2}, Prof. Ioan Sporea^{1,2}

¹Department of Gastroenterology and Hepatology, Department of Internal Medicine II, Center for Advanced Research in Gastroenterology and Hepatology "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania, ²Center for Advanced Hepatology Research of the Academy of Medical Sciences, Timisoara, Romania, ³Center for Modeling Biological Systems and Data Analysis, Department of Functional Sciences, "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania

Background

Non-invasive ultrasound-based techniques for liver stiffness assessment (LSM) were developed as an alternative to liver biopsy. Transient Elastography (TE) is the first method validated by several guidelines and recently other new methods were developed. The aim of this study was to evaluate the performance of two-point Shear Waves Elastography (pSWE) techniques implemented in the same ultrasound system for liver stiffness assessment, using TE as reference.

Materials and methods

A prospective study was conducted, in which 271 consecutive patients with or without previously diagnosed liver disease were included.

LSM was evaluated by point Shear Wave Elastography (pSWE and Auto pSWE) implemented on a Siemens ACUSON Sequoia system (Deep Abdominal Transducer-DAX) and by TE, using a FibroScan Compact M 530 system (M and XL probes).

For Auto pSWE, 15 measurements/values are automatically obtained in a single evaluation and the median and IQR are displayed. For p-SWE and TE, reliable measurements were defined as the median value of 10 measurements and IQR/M<0.3 for all probes. For significant fibrosis, a cut-off value by TE of 7 kPa was used, and for liver cirrhosis 12 kPa.

Results

Valid LSM were obtained in all 271 (100%) patients using both elastographic methods. A very good positive correlation was found between the LS values obtained by TE and both Auto pSWE and pSWE: $r=0.78$, $p<0.0001$; and between Auto pSWE and p-SWE: $r=0.92$, $p<0.0001$. The best pSWE and Auto pSWE cut-off value for significant fibrosis ($F\geq 2$) was 5.1 kPa p-SWE: AUC- 0.81; Se-58.3%; Sp-94.6%; PPV-83.1%; NPV-83.5%; Auto pSWE: AUC- 0.82; Se-63.1%; Sp-90.4%; PPV-76.8%; NPV-84.4%) and for liver cirrhosis ($F4$) was 6.7 kPa (p-SWE: AUC- 0.92; Se-73.8%; Sp-94.3%; PPV-83.8%; NPV-95.3%; Auto pSWE: AUC- 0.93; Se-78.5%; Sp-97.8%; PPV-86.8%; NPV-96.1%).

Conclusion

The two techniques, pSWE and Auto pSWE have very good correlations with TE and similar performance for predicting significant fibrosis and liver cirrhosis in a mixed cohort of patients.

The Frequency And Impact Of Infections In Patients With Alcoholic Hepatitis

Dr. Camelia Foncea^{1,2}, Prof. Alina Popescu^{1,2}, Dr. Renata Fofiu^{1,2}, Dr. Adrian Burdan^{1,2}, Dr. Tudor Moga^{1,2}, Prof. Roxana Sirli^{1,2}, Prof. Ioan Sporea^{1,2}

¹Department of Gastroenterology and Hepatology, Department of Internal Medicine II, Center for Advanced Research in Gastroenterology and Hepatology "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania, ²Center for Advanced Hepatology Research of the Academy of Medical Sciences, Timisoara, Romania

Background

Alcoholic hepatitis (AH) is the most severe forms of alcohol induced liver disease, especially severe alcoholic hepatitis (sAH), defined by a modified discriminant function (MDF)>32, being associated with 1 month mortality of 30%. Infections complicates AH and is the main cause of death in these patients, even in those who benefit from corticotherapy. Aim:to evaluate the frequency and impact of infections in patients with AH.

Material and methods

A retrospective study was performed including 150 patients with AH over a period of 6 years in a tertiary Department of Gastroenterology and Hepatology. Systematic screening of infections was performed at admission, including chest x-ray, blood, urinary and ascites cultures. Response to corticotherapy was evaluated by Lille score at 7 days. Univariate regression was use to determine independent factors related to mortality.

Results

One hundred and fifty subjects were included in the final analysis, 84%male, mean age 55.5±9.42. All patients were previously diagnosed with liver cirrhosis. 39.3%(59/150) presented infections at admission and 37.3% with infections(22/59) died during admission, while only 19.7%(18/91) of those without infections, died(p=0.0283). 72.7%(109/150) of the included subjects had MDF>32 and received corticosteroid therapy and 42.2% of these(46/109) had an associated infection. In the group of those who received corticosteroid therapy, 35/109(32.1%) deaths were recorded,18/35 of them in patients with an associated infection (51.4%). Lille-7 was calculated in 90/109 subjects. 75.2%(82/109) of the subjects who received corticosteroid therapy were not responsive at 7 days and 31.7% of them (26/82) died, while 25%(2/8) of the responders died(p=0.9926). In univariate regression analysis the presence of infections at admission was found to be an independent predictor for mortality(p=0.027).

Conclusion

AH is associated with a high risk of infection and infection screening is mandatory in these patients. The presence of infections at admission was found to be an independent predictor for mortality.

Noninvasive Biological Fibrosis Scores- Useful Tools For Evaluating Nafld Patients

Mr. Radu Cotrau^{1,2}, Prof Dr Alina Popescu^{1,2}, Prof Dr Ioan Sporea^{1,2}, Dr Raluca Lupusoru^{1,2,3}, Dr Camelia Foncea^{1,2}, Dr Felix Bende^{1,2}, Prof Dr Roxana Sirli^{1,2}

¹Division of Gastroenterology and Hepatology, Department of Internal Medicine II, Center for Advanced Research in Gastroenterology and Hepatology "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania, ²Center for Advanced Hepatology Research of the Academy of Medical Sciences, Timisoara, Romania, ³Center for Modeling Biological Systems and Data Analysis, Department of Functional Sciences, "Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania

Background and Purpose

Several noninvasive biological scores were developed to predict liver fibrosis (LF) in patients with non-alcoholic fatty liver disease (NAFLD). We aimed to assess the correlation between AST to Platelet Ratio Index (APRI), Fibrosis 4 (FIB-4) Index and BARD score vs. Transient Elastography (TE), in a group of NAFLD patients.

Methodology

We conducted a prospective study, which included 74 patients with NAFLD, (mean age 54.5 ± 11.6 years, 49.4% female). All patients were evaluated clinically (Body mass index-BMI, waist circumference), by serum markers (aspartate transaminase-AST, alanine aminotransferase-ALT, platelets count, gamma glutamyl transferases-GGT, triglycerides), as well as by TE (FibroScan Compact M 530). Based on specific formulas, we calculated APRI, FIB-4 index and BARD scores [1]. To discriminate advanced fibrosis ($F \geq 3$) by means of TE, we used the cut-off value of 9.7kPa [2].

Results and discussions

Out of 74 patients with NAFLD, 10.8% (8/74) patients had advanced fibrosis based on TE measurements. Using APRI cut-off < 2 (100% patients) to rule out advanced fibrosis, we found a NPV of 91.7%. A weak, but significant correlation between LS assessed by TE and APRI score was found ($r=0.31$, $p<0.0001$). Using FIB 4 cut-off < 2.6 to rule out advanced fibrosis (91.2% - 68/74 patients), we found out a NPV of 92.8%. FIB 4 score was weakly correlated to TE measurements ($r=0.20$, $p=0.006$). Regarding BARD score, 36.4% (27/74) of patients had a BARD score < 2 , used to rule out advanced fibrosis, with a NPV of 100%.

Conclusions

APRI, BARD and FIB-4 can rule out advanced fibrosis. These simple scores could be the basis for evaluation on LF in order to evaluate the need for further investigations .

Negative predictors for variceal bleeding in patients with liver cirrhosis

Dr. Renata Bende^{1,2}, Dr. Felix Bende^{1,2}, Prof. Ioan Sporea^{1,2}, Prof. Alina Popescu^{1,2}, Lecturer Mirela Danila^{1,2}, Prof Roxana Sirli^{1,2}

¹Department Of Gastroenterology And Hepatology, University Of Medicine And Pharmacy "Victor Babes" Timisoara, 300041, Timisoara, România, ²Center of Advanced Research in Gastroenterology and Hepatology, Faculty of Medicine, University of Medicine and Pharmacy "Victor Babes" Timisoara, 300041, Timisoara, România

Background and Purpose

Variceal bleeding negatively affects the prognosis of patients with liver cirrhosis. The study aimed to identify the prognostic factors associated with the occurrence of variceal bleeding and to formulate a prediction score using these predictors.

Methodology

A retrospective study was performed on 1766 subjects with known liver cirrhosis over 4 years. All the included subjects were hospitalized patients in whom laboratory parameters were collected and upper digestive endoscopy was performed. Linear regression was used to evaluate the association between variceal bleeding and several prediction factors. The individual impact of these factors was assessed by building multivariate regression models.

Results and Discussions

1766 patients (mean age: 59.89 ± 10.96 , 61.7% males) with liver cirrhosis, were included. 32% (565) of the subjects had C virus hepatitis, 27.6% (488) had alcoholic liver disease, and 9.1% (161) had B virus hepatitis. 62.3% (1101) were subjects with esophageal varices and 24.7% (272) of them had at least one episode of variceal bleeding. The mortality rate was significantly higher in subjects who experienced an episode of variceal bleeding compared to those without (5.14 % vs. 2.27%, $p = 0.0132$). In univariate analysis: hyponatremia, hypoalbuminemia, hyperbilirubinemia, low levels of cholinesterase, the presence of ascites, platelets count, and Child-Pugh class were associated with variceal bleeding (all $p < 0.05$). In multivariate analysis, the model including albumin ($p = 0.0002$), sodium ($p < 0.0001$), bilirubin levels ($p = 0.0144$), and the presence of ascites ($p = 0.0006$) was associated with variceal bleeding. Using these factors as predictors, by multiple regression analysis we obtained in the initial group the following score: $2.46 - 0.05 * \text{Albumin} - 0.005 * \text{Bilirubin} - 0.01 * \text{Sodium} - 0.03 * 1 (\text{ascites}) \text{ or } * 0 (\text{if no ascites})$ with AUROC=0.75, CI (0.74-0.82), $p < 0.0001$ for predicting variceal bleeding.

Conclusions

Hypoalbuminemia, hyponatremia, hyperbilirubinemia, and the presence of ascites are associated with variceal bleeding. Variceal bleeding significantly increases mortality in patients with cirrhosis.

Smartphone application to predict oesophageal/cardio-fundal varices in compensated cirrhosis of non-viral aetiology using transient elastography measurements and liver transaminases

Prof. Madunil Niriella¹, Dr Nilanga Nishad², Prof Arjuna De Silva¹, Dr Hishali Jayasundara², Dr Vajira Samarawickrama², Ms Selani Dharshika¹, Dr Chamila Ranawaka², Prof Arunasalam Pathmeswaran¹, Prof Janaka de Silva¹

¹Faculty Of Medicine, University Of Kelaniya, Ragama, Sri Lanka, ²Colombo North Teaching Hospital, Ragama, Sri Lanka,

³Stredge Tech Solutions Ltd, Colombo, Sri Lanka

Background and Purpose

Liver stiffness and spleen stiffness measurements (LSM and SSM) using transient elastography have been increasingly used to predict the presence of varices, non-invasively. We used LSM, SSM and AST to ALT ratio (AAR) to develop a statistical model to predict varices and present it as a user-friendly smartphone application.

Methodology

A cross-sectional study was carried out prospectively. Non-obese (BMI<30kg/m²) patients with Child Class A cirrhosis (non-viral) were recruited. LSM and SSM were obtained using Fibroscan (EchoSens) by a single operator, blinded to the presence or absence of gastro-oesophageal varices. Endoscopy was performed to detect varices. The predictors used for the development of the formula were AAR, LSM and SSM. Multiple logistic regression was used to develop the algorithms in 70% and validated using 30% of the sample with Bootstrapping of 1000. Best algorithms with the highest area under the curve (AUC) were selected for smartphone applications on android and iOS web-based platforms.

Results and Discussions

One-hundred-nine out of 211 had varices. After modelling different combinations, logistic regression formula = $5.577 + (\text{LSM} \times 0.035) + (\text{SSM} \times 0.08) + (\text{AAR} \times 1.48)$ resulted AUCs 0.93. Cut-off value > -0.4144 of LRF predicted varices with a sensitivity, negative predictive value and accuracy of 90%, 86% and 83% respectively. Cut-off value > 0.5384 of LRF predicted varices with a specificity, positive predictive value and accuracy of 89%, 89% and 80% respectively. Multiple values were used to develop a smartphone app on the Angular 2+ platform. (It can be downloaded for use @<https://mediformula-65ef0.web.app/>).

Conclusion

The new formula using AAR, LSM and SSM can predict varices with high accuracy in non-obese patients with compensated cirrhosis of non-viral aetiology. The smartphone application derived from this model is easy to use and is to our knowledge the first mobile application of its kind.

Sustainable Elimination of Viral Hepatitis from the Island Nation of Niue: Knowledge is Key

Aprille Mincher¹, Dr Steve Johnson¹, Dr Edgar Akau'ola², Grizelda Mokoia², Dr James Freeman³, Margaret Fraser¹, Hazel Heal⁴, **Prof. Michael Schultz¹**

¹University Of Otago, Dunedin, New Zealand, ²Ministry of Health, Alofi, Niue, ³University of Tasmania, Hobart, Australia,

⁴Hep C Action Aotearoa, Christchurch, New Zealand

Background

Worldwide approximately 58 million people are infected with the hepatitis C virus (HCV), and 296 million with the hepatitis B virus (HBV). Pacific countries reportedly have high levels of hepatitis infection, and low levels of knowledge around hepatitis treatment and transmission.

Aim

To study knowledge about viral hepatitis including risk taking behaviors amongst the population of Niue to guide the successful implementation of targeted preventative interventions.

Methods: All adults (≥18 years) currently living on Niue (2017 Population 1,719) were eligible for this observational, cross-sectional study. Following consent, participants completed a questionnaire (in Vagahau Niue or English) on demographics, hepatitis B/C knowledge and risk-taking behavior. An overall knowledge score was calculated. Unpaired t-tests explored associations between knowledge and participants characteristics. Statistical significance was accepted at $p < 0.05$.

Results

825/947 questionnaires were analyzed (48% of the population). Median age 47 yrs (IQR = 33-62 years), 57% female, 76.2% Niuean. Only 3% reported a previous hepatitis infection but 41.3% were unaware of ever being infected. 52.6% and 48.3% of individuals correctly identified that HBV and HCV infection could be treated. 53.8% correctly identified that an individual can be vaccinated against HBV. The overall knowledge score was low with 36.0%. 52.1% correctly identified a transmission risk through unsterile procedures (incl. tattoos/piercings). IV drug use is rare in Niue but 27%/46.2% had (mainly traditional) tattoos/piercings, with 50% done unsterile. HBV vaccinated vs unvaccinated participants had a higher knowledge score (49.5% vs 34.6%, $p < 0.0001$).

Discussion

Culture is a core foundation within Pacific communities. Hukiteliga (ear-piercing) is an important part of Niuean culture, using a lime thorn and young coconut and done by a close family member. Educational material needs to reflect and recognize the rich cultural dimensions that exist within Pacific spaces to align education initiatives with the peoples' needs.

Velpatasvir and sofosbuvir combination therapy in HCV patients

Prof. Hafiz Mughess ATHER¹

¹*Punjab Medical College Faisalabad, Faisalabad , Pakistan*

Chronic HCV is a prevalent infection in Pakistan. It can lead to complications like cirrhosis of liver, liver failure, hepatocellular carcinoma and death. Oral antiviral therapy has revolutionized the treatment of Hepatitis C. It can achieve eradication of HCV in the form of sustained virological response in HCV patients. We conducted a study to analyze the efficacy of Sofosbuvir, Velpatasvir combination therapy with Ribavirin except when there was a contraindication. It was a prospective single cohort study including all chronic Hepatitis C patients who underwent treatment for Chronic hepatitis C virus (HCV) with Sofosbuvir (SOF) and Velpatasvir (VELPA) combination therapy with Ribavirin (Rib). All patients were more than 18 years old. 64% patients were male and 36% were females. 8.5 % patients were cirrhotic and all patients received Ribavirin. SVR was achieved in 115 / 117 (98.29%) patients. Among cirrhotics SVR 90 % and among non cirrhotics it was 99 %. We conclude that Sofosbuvir, Velpatasvir combination therapy with Ribavirin is an effective antiviral therapy for the treatment of chronic hepatitis C. The limitation of study is a single arm study. There was lack of resistance testing and study population was not uniform. Adverse effects were not documented. A few patients did perform fibroscan. due to availability and affordability issue, so few compensated cirrhosis patients might be grouped among non-cirrhotics. The benefits of adding ribavirin was given to patients where it was not contraindicated. Furthermore record of CRF and HCC patients is not documented

Incidence Of Abnormal Liver Blood Tests At Admission For Patients With Sars-Cov2 (Covid-19) At Northampton General Hospital

Dr. Adeel Hamad¹, Dr Muhammad Idrees¹, Dr A.F. Abdul Mumeen I¹, Dr Iqbal Khan¹

¹*Northampton General Hospital, Northampton, United Kingdom*

Background and Purpose

The beginning of 2020 saw a new challenge for SARS COV2 (Covid 19).

Initial reports showed patients with Covid 19 presenting with abnormal Liver Blood Tests (LBT). UK saw a large number of patients with Covid 19. We look at LBTs for patients who were covid positive and required admission at NGH.

Methodology

The aim of the study was to look at the Liver Bloods tests at presentation, of patients presenting with a covid-19 positive test requiring admission at the Northampton General Hospital.

We looked at the data of 241 patients who were admitted during April-June 2020 with Covid-19 positive test to Northampton General Hospital.

Patients with positive Covid-19 test were identified using the microbiology database.

Three of the authors then looked at individual data for the patients. This study reports the transaminase and alkaline phosphatase values at admission for these patients.

Results and Discussions

The average age of the patients was 67.4 years (range 20-98). 87 (36%) patients were females and 154 (64%) were males.

Out of 241 patients 2 did not have ALT reported at admission. (36.4%) 87 out of 239 patients had a high ALT (Normal 5-33). (72.4%) 63 were males and (27.5%) 24 were females.

27 out of 241 presented with a high ALP (11.4%). Average age was 74 years. 8 were females and 19 were males.

10 out of 239 (4.1%) people presented with both high ALT and ALP. The average age for these patients was 70.6 years. 90% (n=9) of these patients were males and 10% (n=1) were females.

Conclusions

The study is in line with the literature currently available on covid-19 and LBT from other countries.

Our results show a higher ratio of transaminase rise.

Males had a higher ratio in our study, however the study has its limitations

Advanced stage of liver fibrosis in patients with metabolic fatty liver disease is associated with intestinal permeability.

Mrs. Tatyana Krolevets¹, Prof Maria Livzan¹

¹*Omsk State Medical University, Omsk, Russian Federation*

Background and purpose

It is known, liver fibrosis in metabolic fatty liver disease (MAFLD) is considered as a universal factor for the patient survival. It is considered that the assessment of intestinal permeability is a promising objective for the study and selection of therapy.

We want to detect the clinical and laboratory markers associated with the advanced stages of fibrosis in patients with MAFLD.

Materials and methods

216 patients with MAFLD (133 men (61.6%) and 84 women (38.9%), average age 53 years) were included into the study. An elastography was carried out. Serum concentrations of insulin, leptin, its soluble receptor, adiponectin, TMAO and zonulin in stool were determined. We assessed of the parameters in the groups of patients with MAFLD depends on stage of fibrosis (F0-3).

Results

All patients were obese or overweight (average BMI 33.5 kg/m²) and had a higher waist volume than hip volume (ratio WV/HV 1.1). Positive correlations between the stage of fibrosis and abdominal obesity were found ($r_s=0.510$, $p\leq 0.01$). 104 patients with NASH were identified and the FIB-4 index averaged 1.29 ± 0.8 . 34 patients with fibrosis (F2-3) were identified. Patients with advanced stages of fibrosis had a higher level the HOMA-IR index ($t=-1.682$, $p\leq 0.01$), the insulin ($t=-1.364$, $p\leq 0.01$) and a lower level of adiponectin ($t=0.988$, $p\leq 0.01$). The TMAO level had a tendency to increase from fibrosis stage 2 and above (for patients with fibrosis 0-1 - 772.9 pg/ml, fibrosis 2-3 - 841.2 pg/ml). The level of zonulin in stool was higher in patients with fibrosis 2-3 ($t=-1.293$, $p\leq 0.01$). A positive correlation between the level of TMAO and zonulin in stool was revealed.

Conclusion

liver fibrosis in patients with MAFLD is associated with abdominal obesity, insulin resistance and low adiponectin levels. Patients with MAFLD had an increased intestinal permeability, detecting by zonulin level in stool.

Fatty liver in COVID-19: A risk Factor or a Common Receptor?

Dr. Maryam Rayatpisheh¹, Dr. Amir Anushiravani¹, Dr. Amir Reza Radmard²

¹*Digestive Diseases Research Institute, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran. , Tehran, Iran,* ²*Department of Radiology, Shariati Hospital, Tehran University of Medical Sciences, Tehran, Iran. , Tehran, Iran*

Background

A recent outbreak of the novel coronavirus has been posing significant threats to global health since December 2019. SARS-CoV-2 has caused clusters of severe respiratory diseases, leading to ICU admissions. Extra-pulmonary manifestations have been reported such as elevated liver enzymes. Liver diseases have been reported in 60% of patients with SARS-CoV-1 and since its genome sequence is more than 80% similar with the SARS-CoV-2, we should pay more attention to the largest organ in body.

Methodology

To the best of our knowledge, non-alcoholic fatty liver disease (NAFLD) has not been mentioned in association with this novel viral disease. Here, we present our experience on patients suspicious for COVID-19 pneumonia who visited our emergency department in one of the main referral hospitals affiliated with Tehran University of Medical Sciences, Tehran, Iran from February 20 to March 28, and underwent chest CT scan.

Results

From a total of 441 patients who underwent CT scan in our outpatient setting, 125 (28.3%) were highly suggestive for COVID-19 pneumonia. According to the density of liver on non-contrast CT scan, we noticed that moderate to severe fatty liver disease was significantly more prevalent in those with COVID-19 pneumonia (16.8% vs 2.2%, $p < 0.0001$), when liver was assessed in the upper abdomen cuts of chest CT scans. Patients in both groups were not significantly different in terms of their age (52.66 ± 4.25 vs. 54.58 ± 3.54), gender (males were 46.98 ± 2.21 vs. 48.84 ± 2.58), BMI (24.74 ± 3.57 vs. 24.22 ± 3.52), and risk factors such as diabetes mellitus type 2 (9.50 ± 1.23), hypertension (12.25 ± 1.21 vs 10.32 ± 1.88), and cardiovascular diseases (8.75 ± 1.55 vs 9.65 ± 2.20).

Conclusions

Whether NAFLD predisposes patients to COVID-19 or having common receptors and pathways causes their co-occurrence needs to be meticulously evaluated. The association between moderate to severe fatty liver disease and COVID-19 may lead to better understanding of the emerging, rapidly evolving pandemic.

Pregnancy and its course in women with autoimmune hepatitis who referred to a major hepatology clinic in Tehran from 1999 till 2019

Dr. Maryam Rayatpisheh¹, Dr. fatemeh Motamedi¹, Mrs. Marzieh Malek¹, Dr. Siavosh Nasseri- Moghaddam¹

¹*Digestive Diseases Research Institute, Tehran University Of Medical Sciences, Tehran, Iran*

Background

Autoimmune hepatitis (AIH) is a chronic hepatocellular disorder that can result in liver cirrhosis. It frequently affects women of childbearing age and therefore may influence fertility and pregnancy; however the information on pregnancy outcome in women with AIH is scarce.

Methods

We retrieved the files of all female autoimmune hepatitis patients who were in child-bearing age at presentation and had referred to a major hepatology center in Tehran, Iran from March 2000 to March 2020. All of them were contacted by phone and a questionnaire was filled in for them by an expert clinician. The questions included attempting pregnancies, successful conception(s), medication, complications related to the underlying disease and pregnancy, method of parturition, and the neonates' birth weight and condition at birth. The relation of maternal to various outcomes (abortions, disease flare, pregnancy related complications, and conception rate) were assessed using chi-square and Fisher's exact tests as appropriate.

Results

There were 79 females of child-bearing age diagnosed with AIH during the study period. Of these 64 responded to the telephone calls and consented to participate in the study. Of the 64 responding women, infertility rate was 4.1%. . There were 32 conceptions in 23 women ending in 26 live births in 21 women. Five women had two pregnancies each. All babies were singleton. Mean age of the mothers was 28.8 ± 5.7 . There were 5 abortions (before week 14) and 1 still birth at week 36.

Conclusion

According to our study, among women with AIH, possibility of infertility and risk of abortion, low birth weight, preterm labor and pregnancy complications are not more than the general population. Previous studies on pregnancy in AIH have shown the same results.

Preoperative upper digestive endoscopy prior to bariatric surgery: is it essential?

Dr. Emanuel Dias¹, Dr. Margarida Marques¹, Dr. Marco Silva¹, Prof. Guilherme Macedo¹

¹Gastroenterology Department, Centro Hospitalar Universitário De São João, Porto, Portugal

Background and purpose

The role of preoperative upper digestive endoscopy has been discussed with controversy in bariatric surgery. The purpose of this study was to evaluate the prevalence of endoscopic findings in obese patients referred for bariatric surgery.

Methods

A retrospective study involving all patients who performed preoperative upper endoscopy prior to bariatric surgery between January 2019 and December 2021 was performed. Student's t-test was used for comparing quantitative variables between study groups, with $p < 0.05$ for statistical significance.

Results

A total of 611 patients were identified, with mean age of 43.9 ± 11.1 years, including 484 (79.2%) female and 127 (20.8%) male. Median body mass index (BMI) was 41.8 kg/m^2 (range 29.6-73.0). Abnormal endoscopic findings were identified in 473 (77.4%) patients, most commonly involving the stomach (72.8%) as erythematous gastropathy (59.2%), papules (13.6%), erosions (10.6%), polyps (5.4%), atrophy (2.3%) or ulcers (2.0%). All performed gastric biopsies that revealed H. pylori gastritis in 368 (60.2%) and intestinal metaplasia in 76 (12.4%). No cases of dysplasia were found. Hiatal hernia was found in 50 (8.2%) patients. The most common esophageal abnormality was reflux esophagitis in 84 (13.7%) patients, classified as grade A in 62 (10.1%), B in 21 (3.4%) and C in 1 (0.2%). Importantly, Barrett's esophagus was identified in 4 patients. Duodenal abnormalities were less common in 40 (6.5%) patients, including erosive duodenitis (4.1%), polyps (0.7%) or ulcers (0.7%). No significant association was found between endoscopic abnormalities and BMI level. During follow-up, bariatric surgery was performed in 352 (57.6%) patients, including gastric bypass in 245 (69.6%) and gastric sleeve in 107 (30.4%).

Conclusions

Preoperative upper digestive endoscopy identifies a wide range of abnormal findings in obese patients, which may have important clinical impact. Therefore, it must be considered in all obese patients prior to bariatric procedure, regardless of obesity severity.

Efficacy of Liraglutide use in the management of obesity relapse after successful post-endoscopic sleeve gastropasty weight loss

Dr. Fedaa Housen¹

¹*Ibrahim Bin Hamad Obaid Ullah Hospital, , United Arab Emirates*

Background and Purpose

Obesity is becoming more and more worldwide public health problem (Hruby and Hu 2015). Endoscopic sleeve gastropasty (ESG) is a novel therapeutic option for management of obesity, with 5-year maintenance of total body weight loss reaches 90% and 61% of patients maintained 5 and 10% TBWL respectively (Sharaiha et al., 2021). COVID-19 pandemic affected people's lifestyle, with around 42% gained more weight during COVID pandemic (American Psychological Association 2021). Liraglutide has significant weight loss results 5% of TBWL (Pi-Sunyer et al., 2015 and Le Roux et al., 2017) but no data about its use after endoscopic or surgical modalities of weight reduction (Mehta et al., 2017).

This study aims to investigate the efficacy of Liraglutide in decreasing weight back again to the plateau in patients who regained weight again after achieving successful weight loss through endoscopic sleeve gastropasty .

Methodology

A prospective longitudinal study was performed in Gastroenterology department of Ibrahim bin Hamad Obaid Ullah Hospital. We enrolled patients who had relapse of body weight gain after endoscopic sleeve gastropasty (defined by body weight regain after they reached the plateau of body weight loss) during the COVID-19 pandemic. Patients were given Liraglutide injection 3 mg once daily for 6 months and reassessed for total body weight reduction.

Results and Discussion

63 patients with previous overstitch and weight regain were enrolled in the study. All patients committed to Liraglutide daily use. After 6 months, 58 patients (92.06%) reached their baseline plateau weight. The drug was well tolerated and no major side effects were noted among the study population.

Conclusions

The use of Liraglutide was both effective and safe in the management of body loss relapse after successful endoscopic sleeve gastropasty.

Sonographic compression real-time strain elastography in differentiation of functional and inflammatory colonic diseases in children

Professor nikolay nelassov², dr. Alexander berkovski¹, dr. Tatjana karkoshka², dr. Olga eroshenko², dr. Maxim morgunov², dr. Andrey palenyy²

¹maccabi health fund, arad, israel, ²rostov state medical university, rostov-on-don, russia

Background and Purpose

To assess if sonographic compression real-time strain elastography (RTE) in children can help to differentiate functional and inflammatory bowel diseases (IBD) in acute stage of disease.

Methods

79 children (mean age 5.1 years, 95% CI 4.5 – 5.7) were examined. There were 21 healthy children (1-st subgroup) and 58 children with clinical presentation of colonic pathology. Using the level of fecal calprotectin (FC) 58 children with colonic pathology were divided into three subgroups: 25 children with normal values of FC (<50 µg/g; 2-d subgroup), 24 children with borderline levels of FC (50–120 µg/g; 3-d subgroup), 9 children with elevated values of FC (>120 µg/g; 4-th subgroup). In 1-st subgroup in all cases values of FC were <50 µg/g. All children of the 4th subgroup underwent a colonoscopy, which revealed wall lesions characteristic of IBD. RTE measurements were performed during exam of ascending, transverse and descending colon and classified by method proposed by Giannetti A. et al (2013).

Results

In all children of 1-st subgroup RTE revealed category 1B of wall stiffness (normal colonic wall stiffness). 84.0% of children in subgroup 2 were found to have normal intestinal wall stiffness (1B), indicating the presence of functional pathology. 83.3% of children in 3-d subgroup had 2BA category of wall stiffness, which is characteristic for either functional pathology or remission stage of IBD. In patients of 4-th subgroup in 88.9% of cases 1A category of wall stiffness (stiff colonic wall) was determined. Sensitivity and specificity of RTE in separation of children with IBD from others appeared to be 88.9% and 97.9% (p=.0001).

Conclusion

RTE is very useful in differentiation functional and inflammatory colonic pathology in children in acute stage of disease.

Effectiveness of rotavirus vaccine on acute diarrhoea in under 5 years children after expanded program of immunization in Thailand

Dr. Busara Charoenwat¹, Professor Sumitr Sutra¹

¹*Khon Kean University, Khon Kean, Thailand*

Background and Purpose

Two types of rotavirus vaccines (RV), Rotarix (RV1) and RotaTeq (RV5) have been licensed for optional vaccine in Thailand since 2012. Both vaccines have been incorporated in Expanded Program of Immunization (EPI) in 2020. Our objective was to determine the effectiveness of RV against acute diarrhoea in children under 5 years before and after incorporation of RV to EPI.

Methodology

Data of outpatient (OPD) and inpatient (IPD) cases under Thailand National Health Coverage (NHC) between 2015-2019 (pre-EPI period) and 2020 as post-EPI year, that were recorded as International Classification of Diseases and Related Health Problem 10th Revision, Thai Modification (ICD-10-TM), were analyzed.

Results and Discussions

In 2020, the coverage of first dose Rota vaccination was 54.75% and last dose was 37.78%. The peak incidence of acute diarrhea was found in children under 1 year of age. The incident of acute diarrhoea patients in OPD were declined with the median and range from 336,603 (297,525-381,592) persons/year to 252,552 persons/year in pre- and post-EPI era ($p < 0.001$), which was approximately 26.2% reduction. The rate of hospitalization from acute diarrhoea was also decreased with the median from 124,886 (112,976-143,117) cases/year to 108,196 cases/year which was approximately 13.36% reduction. The cost reduction analysis was also done to determine the reduction of admission cost. The cost reduction of ten million baht (330,000 US\$) or 2.71% was noted. Under the Thailand universal healthcare, the cost of admissions (direct medical cost) was paid by this scheme.

Conclusions

The effectiveness of RV was demonstrated in reduction of the incidence of acute diarrhoea in under 5 years children in both OPD visit and hospital admission (IPD) in Thailand. This is the first year of Rotavirus vaccination, and infant under one year of age got the most benefit.

Recurrent Upper Gastrointestinal Tract Bleeding due to Portal Hypertension in a 3 Year Old Boy - A Case Report

Dr. Lukman Abdulkareem¹, Dr. Anthony Bawa², Dr Ojonogwa Ameh¹, Dr. Lawrence Meliga¹, Dr. Justice Igbiti¹, Dr. Olukayode Opadola³, Dr. Dahiru Adamu¹, Dr. Donald Ogbonnaya¹, Dr. Augustine Uhunmwangho¹, Dr. D Itanyi⁴

¹Department of Internal Medicine, University Of Abuja Teaching Hospital, , Nigeria, ²Department of Paediatrics, University Of Abuja Teaching Hospital, , Nigeria, ³Department of Anaesthesia, University Of Abuja Teaching Hospital, , Nigeria, ⁴Department of Radiology, University Of Abuja Teaching Hospital, , Nigeria

Background and Purpose

Portal hypertension (PH) is defined as a portal pressure >10mmHg or gradient >4mmHg. Once portal pressure rises >12mmHg, complications such as gastroesophageal varices (GOV) and ascites may occur. The commonest cause of PH in adults is liver cirrhosis. Among children, portal vein thrombosis and congenital causes like biliary atresia are common causes of PH. Upper gastrointestinal bleeding (UGIB) from GOV may be the first presentation of PH.

Methodology

Case Report of a 3 year old boy who was referred to our hospital.

Results and Discussions

Mst. A. A is a 3 year old boy referred to our hospital with history of recurrent vomiting of blood (2 years duration), recurrent bleeding per rectum (1 year duration), progressive paleness of the body (2 weeks duration) and fever (5 days duration). He had no family history of bleeding disorder. Pregnancy, labour and delivery were said to be normal. He had normal developmental milestones.

On examination, he was severely pale, anicteric, febrile and had mild hepatomegaly, but no palpable splenomegaly. Weight, length, occipito-frontal circumference were appropriate for age. He had some investigations done and was resuscitated and managed for UGIB, septicemia and malaria fever. He became stable after about a week. Upper GI endoscopy showed grade iv oesophageal varices and hyperaemic areas in the gastric fundus. Variceal band ligation was done. Abdominal CT scan showed portal vein thrombosis (PVT). A diagnosis of PH secondary PVT was made and he was commenced on propranolol, omeprazole and antibiotics. His clinical condition improved and he was discharged home to be further managed as an out-patient. Further investigations are on-going to determine the cause of the PVT.

Conclusion

This report highlights the fact that UGIB in a child could be a feature of PH from PVT and further underscores the need for pediatric endoscopy.

Characterization of prognostic factors by clinical and endoscopic scale of patients with caustic ingestion at the Doctor José Esquivel Children's Hospital during the period between January 2009 and December 2020

Dr. Jose Daniel Cencion Zapateiro¹

¹*Metropolitan Health Region, Ministry of Health Panama, Panama, Panama*

Background

The intake of caustic substances is a major problem in developing countries. The potential consequences of ingesting alkalis or acids can be devastating with significant sequelae in pediatric patients, mainly esophageal stenosis.

Purpose

Characterization of prognostic factors using the Drool clinical scale and the Zargar endoscopic scale in patients with caustic ingestion at the Doctor José Esquivel Children's Hospital during the period between January 2009 and December 2020.

Methodology

A retrospective cross-sectional analytical study was carried out in a group of 177 patients aged 6 months to 14 years, at the Dr. José Esquivel Hospital, during the period between January 2009 and December 2020, where the characterization of prognostic factors was carried out through the Drool's clinical scale and Zargar's endoscopic scale.

Results and Discussions

177 patients were found, 56.50% were male and 43.50% female. The average age was 34.2 months, the type of caustic mostly ingested were alkalis 87.57% with mostly accidental exposure, where potash, hair relaxers, and air conditioning cleaners were the main ones. Of the acids, muriatic acid and callus removers are the most frequent. In the evaluation of the DROOL Clinical Scale, it was found that 19 cases with a score ≤ 4 , of which 10 presented complications, mainly esophageal stenosis. The difference regarding the development of complications and a Drool score ≤ 4 is statistically significant ($p < 0.001$)

When evaluating the Zargar Scale, it was found that injuries 2A, 2B and 3 are the ones that were related to complications. The difference with respect to the development of complications and a Zargar 2B scale onwards is statistically significant ($p < 0.001$).

14 patients with complications were documented, of which 64.3% correspond to esophageal stenosis, requiring multidisciplinary management after discharge.

Conclusions

The Drool and Zargar scales are useful in the evaluation and prognosis of the patient after caustic ingestion.

Exploratory Single-Arm, Open-Label Non-Randomized Trial Evaluating the Safety and Effectiveness of Crofelemer in Pediatric Patients with IF

Dr. Mohamad Miqdady¹

¹*Sheikh Khalifa Medical City (AD), ABU DHABI, United Arab Emirates*

Background and Purpose

Children with Intestinal failure (IF) caused by Short Bowel Syndrome (SBS) or Congenital Diarrheal Disorders (CDD) are dependent on parenteral nutrition (PN) for survival, it is the major source of fluids and nutrients as they suffer from significant malabsorption. Therefore their quality of life is significantly affected.

Currently, there is no effective therapy. The use of medication that may decrease their intestinal chloride and fluid secretion and therefore decrease their dependence on parenteral support and will improve their quality of life, nutritional status and reduce PN cost.

Crofelemer will reduce decrease their needs of parenteral support (PS) defined as the combined volume of parenteral nutrition (PN) and intravenous fluid, through reduction of intestinal chloride and fluid secretion in children with IF

Methods

This exploratory study will enroll at least 3 pediatric patients with SBS (Short Bowel Syndrome) and CDD (Chronic Diarrhea Disorders) and up to 6 pediatric subjects diagnosed with IF. Crofelemer will be administered in liquid form orally or through Gastrostomy tube, three times per day. The starting dose is 3 mg/kg per dose.

The treatment duration will be 3 months and the primary endpoint will be To assess the safety & effectiveness of crofelemer in pediatric patients with IF and to decrease the amount of PS over the duration of the study in pediatric patients diagnosed with IF. Additional secondary endpoints will be: To improve oral intake of pediatric patients with IF, to evaluate and measure weight gain and reduction in stool output.

Results & Conclusions: This explorative is actually ongoing. Early data and results will be presented at the World Congress of Gastroenterology.

Can Sight or Smell of Food Induce Gastrocolonic Response?

Dr. Lev Dorfman¹, Dr. Anundorn Wongteerasut², Dr. Khalil El-Chammas^{1,3}, Dr. Rashmi Sahay⁴, Dr. Lin Fei⁴,
Prof. Ajay Kaul^{1,3}

¹Gastroenterology, Hepatology and Nutrition, Cincinnati Children's Hospital Medical Center, CINCINNATI, United States, ²Department of Pediatrics, Phramongkutklao hospital, Bangkok, Thailand, ³Department of Pediatrics, University of Cincinnati College of Medicine, Cincinnati, USA, ⁴Biostatistics, Cincinnati Children's Hospital Medical Center, Cincinnati, USA

Background and Purpose

Gastrocolonic reflex (GCR) is a physiologic increase in motor activity of the colon following meal ingestion. The reflex is thought to be provoked by mechano- and chemoreceptors in the stomach and the duodenum and is mediated by the Vagus nerve. The presence of GCR is used as a marker of normal extrinsic neuronal modulation of colonic motor activity.

Aim

To investigate whether GCR could be induced by visual or olfactory stimulation prior to food ingestion, and to describe the manometric characteristics of patients that show this response.

Methodology

Electronic medical records review of pediatric patients between July 2019 and July 2021 who were reported as having normal colonic manometry studies performed for intractable idiopathic constipation. Presence of visual/olfactory GCR was defined as an increase by at least 25% of the baseline motility index (MI) after placing the food tray in sight of patients. Data was compared between patients who had a sensory GCR response to patients who did not.

Results and Discussions

Eighty-nine patients met the inclusion criteria, 47.2% of whom were female with a median age of 9 years (IQR of 5, 12). Forty-seven (52.8%) patients had a positive sensory GCR. No statistically significant differences between sensory-positive and sensory-negative GCR groups were noted with respect to age, sex, associated comorbid conditions, and presence of high amplitude propagated contractions (HAPC). Compared to the sensory-negative GCR group, sensory-positive GCR patients included significantly higher proportion with a postprandial GCR (93.6% vs. 76.2%, p-value=0.02) and lower fasting (baseline) MI (2.08 mmHg vs. 3.54 mmHg, p<0.01).

Discussion

Our findings propose an alternate pathway that could induce GCR, likely signaling via the Vagus nerve.

Conclusions

This central sensory pathway provoking GCR may have clinical implication in the diagnosis and management of patients with colonic dysmotility.

Differential Affliction of Enteric Smooth Muscle Cells and Interstitial Cells of Cajal in ACTG2 Mutation-Associated Pediatric Intestinal Pseudo-obstruction

Dr. Srikanth KP, Dr. Usha Kini, Prof. AJAY Kaul

Background and Purpose

Mutations in enteric smooth muscle cell actin γ -2 (ACTG2) gene have been shown to be associated with congenital myopathy of the bowel and bladder. Aim of this report is to highlight the differential involvement of smooth muscle cells as well as Interstitial Cells of Cajal (ICC) in this disorder.

Case Report: A 5 -month- old Indian male presented with bilious vomiting, abdominal distension, constipation and urinary retention. He was diagnosed with Pediatric Intestinal Pseudo-obstruction (PIPO) and whole exome sequencing was performed that identified a de novo heterozygous missense mutation in enteric smooth muscle cell actin γ -2 gene (ACTG2). Detailed histopathology of full thickness rectal and sigmoid colon biopsies was performed with immunohistochemistry (IHC).

Results

Well ganglionated biopsies showing near normal neural morphology on H&E stain and IHC ruled out ganglionitis, Hirschsprung Disease and other enteric neuropathies. Smooth Muscle Actin (SMA) antibodies highlighted blotch positivity in inner circular muscle layer with near normal outer longitudinal muscle layer. Marked paucity of ICC staining in the muscle layers (ICC-IM) with normal staining of the ICC around the myenteric plexus (ICC-MY) was also observed.

Conclusion

This is the first report of a child with documented de novo ACTG2 mutation from South East Asia showing differential myopathic and ICC-pathic changes. Embryonic mesenchymal precursors of ICC require the presence of Stem Cell Factor (SCF), expressed by both the enteric neurons and smooth muscle cells, to differentiate into mature ICC. Abrogated development of ICC specifically in the muscle layers (ICC-IM) could reflect a deficiency of SCF expressed by the abnormal smooth muscle cells. Further studies are needed to confirm the mechanism to explain the differential topographical affliction of smooth muscle cells and ICC in patients with ACTG2 mutation associated Pediatric Intestinal Pseudo-obstruction.

Safety and immunogenicity of 3-dose BNT162b2 SARS-CoV-2 vaccine in liver-transplanted adolescents

Dr. Palittiya sintusek^{1,2}, doctor supranee buranapraditkun^{1,3}, mrs siriporn khunsri¹, miss varathaya saengchaisukhonkit¹, miss preeyaporn vichaiwattana⁴, miss thanunrat thongmee⁴, professor yong poovorawan⁴

¹chulalongkorn university, thai pediatric gastroenterology, hepatology and immunology (tpghai) research unit, bangkok, thailand, bangkok, thailand, ²king chulalongkorn memorial hospital, chulalongkorn university, pediatrics, bangkok, thailand, bangkok, thailand, ³king chulalongkorn memorial hospital, chulalongkorn university, allergy and clinical immunology, faculty of medicine, bangkok, thailand, bangkok, thailand, ⁴chulalongkorn university, excellence center of clinical virology, department of pediatrics, bangkok, thailand, bangkok, thailand

Background and purpose

Since BNT162b2 was approved to prevent corona virus 2 (SARS-CoV-2) in children >12 years old, the aim of this study was to compare the safety and immunogenicity of BNT162b2 vaccine in liver transplanted (LT) adolescents.

Methodology

LT adolescents aged 12-17 years followed at King Chulalongkorn Memorial Hospital received 30 µg of BNT162b2 injection at beginning, week 3 and week 26. All were evaluated for total SARS-CoV-2 antibodies directed against the receptor binding domain (RBD) at 7 timepoints; anti-nucleocapsid at week 8. Adverse effects were recorded at day 0-7. This clinical trial was registered in Thai Clinical Trial Registry (TCTR20210830002) and approved by institute research board at Chulalongkorn University (IRB No 715/64).

Results and discussions

Sixteen LT adolescents were enrolled with mean age of 14.59 (1.78) years. After completion of BNT162b2, all of LT adolescents were positive for anti-RBD immunoglobulin with the geometric mean titer of 1,511.37 (95%CI 720.22-3,171.59), 6,311.90 (95%CI 4,955.46-8,039.64) and 42,770 (95%CI 28,953-63,180) U/mL, respectively (P<0.001). Anti-nucleocapsid at week 8 was negative all referring to no SAR-CoV2 infection at that time. However, none of LT adolescents had positive sVN to Omicron at week 8. The common adverse effects were pain, swelling at injected site, fever and malaise.

Conclusions

LT adolescents had good immunogenic response to 2-dose BNT162b2 but seemed to less effective against Omicron variant. Further study in aspect of the efficacy against Omicron variant after 3-dose BNT162b2, is needed.

Novel Diagnostic Parameters for Gastroesophageal Reflux Disease in Children with Extraesophageal Manifestations Using Combined-Video, Multichannel Intraluminal Impedance-pH Study

Dr. Palittiya Sintusek¹, Miss Sutha Eiamkulbutr, Mr Anapat Sanpavat, Mr Termpong Dumrisilp, Miss Sumalee Hantragool¹Chulalongkorn University, Bangkok, Thailand, ²Thai Pediatric Gastroenterology, Hepatology and Immunology Research Unit, Department of Pediatrics, King Chulalongkorn Memorial Hospital, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand

Background

Gastroesophageal reflux disease (GERD) might be either a cause or comorbidity in children with refractory respiratory problems, without any gold standard tool for diagnosing it in children. This study aims to evaluate the prevalence of extraesophageal GERD using conventional and combined-video, multichannel intraluminal impedance-pH (MII-pH), and to propose novel diagnostic parameters.

Methods

The study was conducted among children suspected of extraesophageal GERD at King Chulalongkorn Memorial Hospital between 2019 and 2022. The children underwent conventional and/or combined-video MII-pH. The potential parameters were assessed and receiver operating characteristic was used for the significant parameters.

Results

51 patients (52.9% males), aged 2.24 years were recruited. The common problems were cough, recurrent pneumonia, and hypersecretion. Using MII-pH, 35.3% of the children were diagnosed with GERD by reflux index (31.4%), total reflux events (3.9%), and symptom indices (9.8%) with higher symptom recorded in the GERD group (94 vs. 171, $P = 0.033$). In the video monitoring group ($n = 17$), there were more symptoms recorded (120 vs. 220, $P = 0.062$) and more GERD (11.8% vs. 29.4%, $P = 0.398$) by symptom indices. Longest reflux time and mean nocturnal baseline impedance were significant parameters for diagnosis with receiver operating characteristic areas of 0.907 ($P = 0.001$) and 0.726 ($P = 0.014$).

Conclusions

The prevalence of extraesophageal GERD in children was not high as expected. The diagnostic yield of symptom indices increased using video monitoring. Long reflux time and mean nocturnal baseline impedance are novel parameters that should be integrated into the GERD diagnostic criteria in children.

Food allergies in Indian Children, Time to sensitize clinicians, Now!

Prof. Dhanasekhar Kesavelu¹, Dr Nithya Franklyn

¹*Apollo Childrens Hospital, , India*

Background and Purpose

Data is limited or scarce in Indian children on food allergies and their incidence in India. We set to find out the incidence, prevalence, presenting symptoms and the common food allergens in our single center prototype study. To prove the non-existence of data we searched Scientific databases, Literature review in PubMed/ Google scholar/med base using keywords "Food " + " allergy " + "statistics " + "children" + "SAARC countries" didn't reveal any results. Most of the papers related to food allergy were from the Western countries or they were anecdotal Indian data.

Methodology

A retrospective data analysis was done at Apollo Children's Hospital, Chennai over a period of four Years (2016-2020). Children aged less than 16 years of age with symptoms and/or signs suggestive of suspected

Allergy (ex. Chronic cough, cold, nasal stuffiness, rhinorrhoea, vomiting and loose stools) who underwent Phadiatop® were included in the study. Patients medical records was analysed for history, clinical features, Phadiatop® results, clinicians findings. Microsoft Excel ® was used to compile collected data. Identification of the Allergen, medical treatment given, supporting investigations if any, dietary modifications done and follow up Plan were focussed upon.

Results and Discussion

Out of the 100 children who were studied, 69 were male and 31 were female, 48 were under 5 years, 34 were between 6-10 years, 18 of them were above 11 years. 73% tested positive on the Phadiatop and 27% tested negative.

Conclusion

It is interesting to note that our cohort presented to various specialists with their symptoms- 56 children to Allergy specialist and Immunologist, 18 to the Gastroenterologist, 6 to the pulmonologist and 20 to the General Paediatrician. Majority of children (41%) had dietary intervention as the main treatment, since our cohort's most common allergens were food allergens in the following order- Milk(50%), Wheat (25%), shrimp(12%), Egg protein (10%) and Peanut(3%).

Correlation of Computerised Tomography, Endoscopy and Histology in the diagnosis of paediatric Inflammatory Bowel Disease

Prof. Dhanasekhar Kesavelu¹, Dr Nithya Franklyn, Dr Sunil Kumar Sunil Kumar, Dr Rochita Ramanan

¹*Apollo Childrens Hospital, , India*

Background and Purpose

Diagnosis of pediatric inflammatory bowel disease (PIBD) is intriguing and challenging as the presentation can be wide and variable. Clinical history and examination, radiological imaging endoscopy and histology form the four vital parts in the diagnosis of IBD. We aim to compare the correlation between radiology, endoscopy and histology in the diagnosis of pediatric IBD in our center to identify the sensitivity and specificity of these diagnostic tools. This study to our knowledge will be the first to compare the above in the diagnosis of IBD Other studies have shown various other parameters that correlate in the follow-up and treatment planning of pediatric IBD.

Methodology

Prospective study of CT findings with histology and endoscopy findings in children with paediatric inflammatory bowel disease were correlated over a 12 month period of children who underwent a CT abdomen with contrast and subsequently upper GI endoscopy and colonoscopy and biopsies were obtained as a standard equalling a total number of 10(three upper GI endoscope and seven from the lower GI endoscopy) the pathology results were reviewed by a senior pathologist along with the senior radiologist and the statistics were analyzed.

Results and Discussions

We found a significant correlation between the 3 diagnostic parameters with a Sensitivity of 90% and Specificity of 93%.

Conclusions

The diagnosis of PIBD is yet challenging and intriguing but with the aid of multiple correlative and collaborative parameters is correlative and leads to imposing clinical outcomes

Use of Ranitidine in Pediatrics: Consensus Statement & Recommendations from Indian Experts

Prof. Dhanasekhar Kesavelu¹

¹*Apollo Childrens Hospital, Chennai, India*

Background and Purpose

Ranitidine, a histamine-2 receptor antagonist has been used in clinical practice for more than four decades to manage several acid peptic disorders. It plays a pivotal role in routine pediatric practice for managing conditions like gastroesophageal reflux disease (GERD) and peptic ulcer. However, multi-dimensional use & safety of ranitidine in pediatrics is not supported by any clinical guidelines, which led to the development of consensus statements based on evidence and clinical experience of Indian experts.

Methods

Thirteen experts representing general pediatricians and pediatric gastroenterologists across India were involved in the panel who reviewed the literature on Ranitidine. A modified GRADE approach was used to grade the level of evidence. The Delphi method was implemented to reach unified decisions, which led to the development of consensus statements. All the experts voted for the proposed consensus statements on a 5-point Likert scale and consensus was reached when at least 80% voted combinedly for strongly agree and agree.

Results

Ranitidine has an established role in the management of GERD, and it also prevents nocturnal reflux effectively. Rapid onset and short duration of action makes ranitidine a choice for on-demand acid suppression. It plays an important role in managing drug-induced gastritis and stress-induced gastric lesions in critically ill pediatric patients. It also helps in reducing gastric fluid volume when used as preoperative prophylaxis. Additionally, there is growing evidence of side-effects with PPIs, questioning their safety for pediatric use. On the contrary, Ranitidine has a better safety profile than PPIs with respect to both GI and non-GI side-effects.

Conclusion

Ten recommendations on the use of ranitidine in pediatrics were developed which would be a guiding tool for all the clinicians, on the therapeutic benefits of ranitidine as a better & safe alternative to PPIs in short-term acid suppression for multiple indications.

Clinical control study of disposable electronic gastroscope for endoscopic gastrectomy of gastric polyps

博士。 Rui Zhu¹, Dr. Qiu Zhao¹

¹*Zhongnan Hospital Of Wuhan University, Wuhan, China*

Background and Purpose

Gastric polyp is a kind of swelling lesion originated from gastric mucosa or submucosa and has the tendency of canceration. In order to solve the hidden danger of cross infection in patients, HuiZhou Xzing Technology Co., Ltd. developed a disposable electronic gastroenteroscopy. This study was to evaluate the safety and efficacy of disposable electronic gastroscopy (Xzing-W200B) for endoscopic gastrectomy of gastric polyps.

Methods

This study adopted a randomized, open control design. After signing the informed consent, subjects were selected according to the admission criteria and randomly assigned to the experimental group and the control group by coin flipping. All patients were treated with gastric polypectomy. The experimental group was treated with disposable electronic gastroscopy, and the control group was treated with Olympus GIF-HQ290. The performance and safety of disposable gastroscopy for endoscopic polypectomy were comprehensively evaluated according to the therapeutic effect, incidence of intraoperative bleeding, incidence of perforation, evaluation of clinical experience, device-related adverse events. Twenty patients were recruited for this clinical trial.

Results

The complete resection rate of gastric polyp under endoscopic treatment was 100% in both groups. No bleeding or perforation occurred in the two groups. Evaluation of clinical operation performance between experimental group and control group: flexibility and therapeutic operation were (3.50 ± 1.08 vs. 5.80 ± 0.42) and (4.50 ± 1.08 vs. 5.70 ± 0.67), with statistically significant differences ($t=6.273$, 2.979 , $P=0.00$, 0.008). The assistive function ratio was (5.00 ± 1.05 vs. 5.60 ± 0.97), the comparison of image conditions and brightness, contrast and sharpness was (3.40 ± 0.84 vs. 4.00 ± 0.00) and (3.40 ± 0.97 vs. 4.00 ± 0.00), the difference was not statistically significant ($P>0.05$). There were no adverse events in both groups.

Conclusion

Disposable electronic gastroscope is safe and feasible for endoscopic treatment of gastric polyps. Although its operation performance is slightly inferior to that of traditional Olympus endoscope, its image acquisition quality is good and the effect is comparable to that of Olympus GIF-HQ290 gastroscope.

Management Of Intestinal Failure In A Quaternary Center In The Middle East

Dr. Abdullah Shatnawei¹, Carla Daou¹, Dr Ruba S. AlRefai¹, Dr Mu'ed Alkhalaileh¹, Mariam Hassan¹, Ruba Dajani¹, Alaa Samer AlKhatib², Noor AlHuda Samer AlKhatib², Jean Aguinaldo¹, Dr Essa Aleassa¹, Ziad Sadik¹, Wasim El Nekidy¹

¹Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates, ²College of Medicine in University Of Sharjah, Sharjah, UAE

Background

Management of Intestinal Failure (IF) requires short or long term nutritional support, typically in the form of home parenteral nutrition (HPN). Although there is consensus on HPN practice and the importance of HPN in treating IF, there is limited or no data on HPN service in the Middle East region due to the scarcity of medical centers with this service. The goal of this study is to describe the newly established service at a quaternary care center, Cleveland Clinic Abu Dhabi (CCAD).

Methods

This is a retrospective observational study conducted at CCAD on patients with confirmed diagnosis of intestinal failure 2019-2022. The interdisciplinary team included: gastroenterologist, surgeons, dietitians, clinical pharmacists, and home-care nurse providers to ensure safe HPN care.

Results

During the study period, 83 Patients met the inclusion criteria. The mean age was 43 years, with 77% were local citizens, 53% females. The common comorbidities were diabetes mellitus (29%), hypertension (29%), dyslipidemia (27%), coronary heart disease (7%), chronic heart failure (5%) and chronic renal failure (16%). Short bowel syndrome composed 16% of the sample with 31% had < 30 cm bowel length. Total Parenteral Nutrition (TPN) was initiated on 96% of the patients at least once throughout their hospital stay and 31% required HPN. Amongst the patients on HPN, 50% continued the HPN for at least 6 months and 35% required HPN for 1 year. The causes of intestinal failure were bariatric surgeries (33%), cancer (20%), IBD (14%), and mesenteric ischemia (10%). The interdisciplinary team included; gastroenterologist, surgeons, dietitians, clinical pharmacists, and home-care nurses.

Conclusion

A center specialized in gut failure with nutrition support services especially home TPN, helps improve the quality of care provided for this group of unfortunate patients. The success of our multidisciplinary care model is impacting positively on the community with growing referrals.

Drug utilization patterns of proton pump inhibitors in acid peptic disease patients with co-morbidities in India: A real-world electronic medical records-based study

Dr. Yogesh Garje¹, Dr. Neeraj Markandeywar², Dr. Chintan Khandhedia³, Ms. Shruti Dharmadhikari⁴, Dr. Suyog Mehta⁵, Dr. Sadhna Joglekar⁶

¹*Sun Pharma Industries limited, Mumbai, India*, ²*Sun Pharma Laboratories Limited, Mumbai, India*, ³*Sun Pharma Laboratories Limited, Mumbai, India*, ⁴*Sun Pharma Laboratories Limited, Mumbai, India*, ⁵*Sun Pharma Laboratories Limited, Mumbai, India*, ⁶*Sun Pharma Industries limited, Mumbai, India*

Background and Purpose

Acid peptic disease (APD) is often associated with co-morbidities. Choosing a proton pump inhibitor (PPI) is critical in such patients considering use of multiple medications and potential drug-drug interactions. This real-world study was planned in India to understand drug utilization and prescription pattern of various PPIs in APD patients with co-morbidities.

Methods

This electronic medical record (EMR)-based, multicenter, retrospective study analyzed drug utilization pattern of PPIs along with clinical profile in APD patients aged ≥ 18 years with comorbidities who were treated with PPIs. As an exploratory objective tolerability and effectiveness of PPIs in APD management in these patients was also evaluated.

Results

Of 687 patients (mean age= 47.76 years), 71% patients had 1 co-morbidity and 29% patients had ≥ 2 comorbidities; endocrinology disorders being most common while gynaecological conditions least common. PPIs were most commonly prescribed in 46-60 years age-group. Overall pantoprazole was most commonly prescribed PPI (51.67%) for a mean duration of 36.34 ± 29.95 days and omeprazole was least prescribed (5.97%). Pantoprazole was preferred over other PPIs as co-prescription with other drug classes including anti-diabetic (53.91%), anti-platelet (50%), and anti-hypertensive (50.88%) agents. Among PPIs maximum treatment compliance was observed to pantoprazole. Pantoprazole significantly ($p < 0.05$) reduced all symptoms; heartburn, belching, bloating, fullness, nausea, eructation, abdominal pain, and night-time acid reflux when compared with omeprazole and rabeprazole except for heartburn (rabeprazole; $p = 0.31$). Pantoprazole significantly also decreased nausea compared to esomeprazole ($p = 0.03$). All PPIs were well tolerated with headache, nausea, and difficulty in swallowing being commonly reported adverse events.

Conclusion

Based on the drug utilization pattern observed from this EMR study, pantoprazole was the most commonly prescribed PPI in patients with multiple co-morbidities, probably due to lower drug-drug interaction potential.

Establishing a Successful Multidisciplinary Aerodigestive (ADG) Service for Children with Complex Illnesses Affecting the Gastrointestinal, Upper and Lower Airways – the First in the UAE

Dr. Hisham Hamdan¹, Dr. Safeena Kherani¹, Dr. Christos Tzivinikos¹, Dr. Hayat Adib¹, Ms. Anita Koshy¹, Dr. Fatma Aljassim¹, Ms. Karen Golightly¹, Ms. Masooma Aljasmi¹, Dr. Mohamad El Bitar¹, Ms. Mpho Monese¹, Dr. Noora Mubarak, Mr. Robert Latto¹, Dr. Tanvir Nazir¹, Dr. Alexander Klingmann, Mr. Fahad Kannanari¹, Ms. Jaini Robins¹, Ms. Jawein Barrera¹, Dr. Ali Alsarhan¹

¹*Al Jalila Children's Specialty Hospital, Dubai, United Arab Emirates*

Background and purpose

Tertiary care hospitals commonly manage children with complex respiratory, swallowing, nutritional and digestive issues. Healthcare for these patients is challenging due to its complexity, cost, number of providers and hospital appointments. A harmonized multi-disciplinary approach is optimal to achieve effective integrated quality health care.

Methods

The first multidisciplinary aerodigestive (adg) service in the united arab emirate (uae) aims to provide a collaborative team-based approach for children with disorders involving their upper airway, lower airway and gastrointestinal systems. The service delivers healthcare through one outpatient visit during which 5 healthcare providers jointly assess each patient. An integrated treatment plan is then formulated. When indicated, procedures requiring general anesthesia are performed during one anesthetic to reduce risk, caregiver stress and cost. This specialized pediatric team includes gastroenterology, pulmonology, otolaryngology, speech-language pathology and clinical dietetics.

Results and discussion

From jan 2020 to mar 2022, the total number of patients seen in the adg service was 108 in 711 encounters. Almost all patients were assessed by each team member during their visit. The ratio of citizens to non-citizens and males to females was approximately 2:1 and 3:1 respectively. All patients who required multiple procedures under general anesthesia had the procedures performed under one anesthetic. Procedures included sleep endoscopy, laryngoscopy, tracheoscopy, flexible and rigid bronchoscopy, adenotonsillar surgery, supraglottoplasty, laryngeal cleft surgery, upper gi endoscopy, esophageal balloon dilatation, impedance and manometry studies and percutaneous gastrostomy insertions.

Conclusion

Establishing the first adg service has been a successful initiative with its own learning curve. Preliminary data indicates that there is a need for this service in our population. Adg clinics were doubled in late 2021 to 4 per month to meet this demand. We constantly endeavor to improve our care model's efficacy. A clinical dietician and a dedicated service coordinator were added in late 2021.

How do gastroenterologists follow in practice the Rome IV criteria and recommendations for the Disorders of Gut-Brain Interaction: a Romanian internet study

Prof. Dan L Dumitrascu¹, Dr Petru Madar

¹Iuliu Hatieganu University Of Medicine And Pharmacy Cluj-*napoca*, Cluj-Napoca, Romania

Background and purpose

The recent progress in understanding the disorders of the gut-brain interaction (DGBI) provided by the work of Rome Foundation (RF), requires an audit of the knowledge, awareness and practice implementation by gastroenterologists in their activity. Some reports show divergent data on the practical application of Rome IV criteria and recommendations in real life. We looked for the attitude of Romanian gastroenterologists on DGBI in respect to the standards of RF.

Methods

We carried out an internet survey using the 'International Validation Study of the Adult Rome IV Diagnostic Questionnaire'. This included beside biographical data, professional experience, items focused on the attitudes towards the usefulness of the Rome criteria, medical screening tests and employed treatment strategies for main DGBI. The study was freely accessible online and distributed, with prior consent, through a mailing list to members of the Romanian Society of Gastroenterology and Hepatology.

Results and discussion

Only 60 gastroenterologists (29M/31F, median age 45y) from 500+ members of the society filled the questionnaire. For functional dyspepsia, 72% only considered *H. pylori* testing necessary; other screening tests considered helpful were: lactose intolerance screening (55%), computed tomography (CT) or other imaging techniques (50%) and food intolerance or allergy screening (45%). For IBS, 48% considered colonoscopy necessary, 47% helpful. Other tests considered helpful were: intestinal biopsies (63%), CT/MRI (60%), enteroscopy (55%), food intolerance or allergy testing (50%), tests for infection (47%). Balloon expulsion test (52%), anorectal manometry (43%), intestinal transit time (38%), anorectal EUS (38%) were considered helpful but less available.

Conclusions

This internet survey revealed a good knowledge of Romanian gastroenterologists of the RF diagnostic criteria and the application of management recommendations of DGBI in real life practice. However some items were incorrectly responded, reflecting the need of continuous education.

Reasons for hospital readmission in patients with long term PEG tube

Dr. Noble Thomas¹, Dr Thomas Cherukara¹, Dr Yousif Al Serkal¹, Dr Saima Hamid Majid¹, Dr Usman Ahmad Othi¹

¹*Kuwait Hospital, Sharjah, , United Arab Emirates*

Background and Purpose

Percutaneous endoscopic gastrostomy (PEG) is indicated for prolonged enteral nutrition. Patients on long term PEG tube can develop complications related to PEG or unrelated to feeding tube which require hospital admission. The purpose of the study was to explore reasons for hospital re-admissions of patients on long-term PEG-tube.

Methods

Retrospective analysis of patients on long term Peg-tube admitted to the hospital during the period January 2019 to June 2020. Data were reviewed to retrieve demographics, reasons for PEG placement, number of hospital re-admissions, reason for readmission, presence of PEG tube complications or adverse events.

Results

Average age of the 51 patients who fit our inclusion criteria was 65.98 years (range from 16 to 103) and 62.74 % were females. The reasons for PEG placement include Ischemic stroke (35.29%), dementia (15.6%), intracerebral bleed (13.72%), anoxic encephalopathy (9.8%), Cerebral palsy (7.84%), parkinsonism (5.88%), traumatic brain injury (3.92%) and others (7.84%). During this period 70% had more than one admission, 14 % had more than two and 6% had more than three readmissions. The reasons for readmission associated with complications related to PEG include Tube dysfunction 7 (13.72%), Peristomal leakage 5 (9.80%), Buried bumper 4(7.84%), inadvertent PEG tube removal 3(5.88%) and gastrocolic fistula 1 (1.96%). 36 patients had reasons unrelated to PEG tube which include Pneumonia (36.11%), UTI (16.66%), gram negative sepsis (8.33%), GI bleed (8.33%), covid infection (8.33%) , cardiac arrest outside hospital(8.33%), infected bed sores (8.33%), DVT(2.77%), sigmoid volvulus(2.77%). Overall mortality was 30 % (n=15).

Conclusions

These findings suggest that most long-term patients with a PEG tube are re-hospitalized at least once after the PEG placement due to complications related or unrelated to the PEG. Healthcare professionals, family members and caregivers need to be educated about the risk/benefit ratio of PEG procedures.

PPI in the German Outpatient Service: Misuse Is The Rule Rather Than The Exception

Mrs. Kate Plehhova¹, Mrs Monika Haering¹, Mr Joshua Wray¹, Dr Cathal Coyle¹, Mrs Rebecca Zingel², Dr Eduardo Ibanez³, Dr Karel Kostev², Dr Joachim Labenz⁴

¹Reckitt, Hull, United Kingdom, ²IQVIA, Frankfurt am Main, Germany, ³IQVIA, Madrid, Spain, ⁴Diakonie Klinikum, Jung-Stilling Krankenhaus, Siegen, Germany

Background and Purpose

A growing body of evidence suggests that PPI prescriptions are increasing in volume and often inappropriately prescribed compared with guidance.

Methods

This retrospective cross-sectional study used data from the Disease Analyzer database (IQVIA) and included outpatients with at least one PPI prescription in 1045 general practitioner (GP) or gastroenterologist (GENT) practices between October 2019 and September 2021. Then, combining the demographical data with patient histories covering both prescriptions and diagnoses, the patients were descriptively classified into several (overlapping) cohorts depending on the adequateness of their PPI prescriptions. These cohort included, for example, patients (a) with inappropriately prescribed PPIs, (b) for whom PPIs are no longer necessary, (c) whose PPI dosage can be reduced, (d) with an appropriate PPI prescription, or (e) who could benefit from an alginate add-on.

Results

A total of 481,247 patients were available for analyses. Of them, only ~5% were treated properly; of the remaining 95% overlapping cohorts found that 92% could benefit from PPI dosage reduction, 62% no longer needed to be on a PPI, 44% were inappropriately prescribed a PPI, according to indication and 42% would benefit from alginate add-on. Although current guidelines recommend that PPI treatment duration should be 4-8 weeks, 61% were treated over three months, 31% over six months, and 14% over 12 months. 100% of practices in the database prescribed PPIs to at least 10% of their patients, with >95% of them prescribing PPIs at first visit to at least 10% of their patients.

Conclusions

Although more than 10% of outpatients received PPI prescriptions, only 5% of them were treated appropriately. Of the remaining 95%, the vast majority could stop or reduce their PPI intake and their care brought in line with guidance, thereby reducing unnecessary treatment and negative impact on healthcare costs

Trends in PPI Prescribing in England Primary Care: Results of a Prospective Education Study

Mrs. Kate Plehhova¹, Mr Joshua Wray¹, Mr. Scott Sutton², Mr. Jim McArdle², Mrs. Anne Dawson¹, Dr Cathal Coyle¹

¹Reckitt, Hull, United Kingdom, ²Interface Clinical Services (an IQVIA business), , UK

Background

Evidence suggests proton pump inhibitors (PPIs) are overprescribed across UK Primary Care Networks (PCNs) and that this places a high burden on the NHS. This study follows PPI prescribing behaviours in PCNs and pilots a system supporting physicians in identifying inappropriate PPI therapy alongside promoting guideline-appropriate management.

Methods

A system was designed and deployed in 43 surgeries across England, by Interface Clinical Services. Three deployment approaches were trialled: Tier (1) – data platform with resource materials, Tier (2) – Tier 1 and online support, Tier (3) – Tier 2 and pharmacist led mentorship supporting audit. The platform uses data from the practice clinical system to assess prescribing practice. Patients were stratified according to demographics, PPI dosage, treatment duration and indication. To date, 57,144 patients have been identified of which 56,959 (99.7%) patients were eligible for consideration of PPI dose reduction or deprescribing.

Results

Of 56,959 patients eligible to reduce or stop PPI therapy, 9588 patients (16.1%) were on a high-dose PPI and 56,957 patients (95.9%) were on a PPI long-term (>3 months). Of the latter, 22,777 (39%) had coded indications for <3 months' treatment; only 2,407 (4%) patients had coded indications for long-term use. The remaining 32,687 (57%) long-term users had no coded indication, of which 12,479 (38%) had no medicines follow-up in the last year. Of the 22,777 (39%) long-term PPI users with coded indications that justify <3 months' treatment, 22,608 (99%) had their first PPI prescription issued >3 months ago and 19,525 (86%) have received PPI therapy for over 5 years.

Conclusion

These findings suggest PPI overprescribing in UK PCNs and that there is little coded evidence of patient follow-up. Greater support should be given to PCNs to support PPI prescribing in accordance with guidelines and empowering patients to self-manage their condition, reducing prescribing burden

Assessment of Perioperative Nutrition Practices and Attitudes— A National Survey of Surgeons in India

Dr. Neeraj Markandeywar¹, Dr. Yogesh Garje², Dr. Chintan Khandhedia³, Ms. Shruti Dharmadhikari⁴, Dr. Suyog Mehta⁵, Dr. Sadhna Joglekar⁶

¹*Sun Pharma Laboratories Limited, Mumbai, India*, ²*Sun Pharma Industries limited, Mumbai, India*, ³*Sun Pharma Laboratories Limited, Mumbai, India*, ⁴*Sun Pharma Laboratories Limited, Mumbai, India*, ⁵*Sun Pharma Laboratories Limited, Mumbai, India*, ⁶*Sun Pharma Industries Limited, Mumbai, India*

Background and Purpose

Appropriate perioperative nutritional therapy improves perioperative outcomes in surgical patients, who often demonstrate greatest risk of baseline and iatrogenic malnutrition. However, data on practices and attitudes regarding use of perioperative nutritional supplements is lacking.

Methods

This survey was planned to understand perioperative nutritional practices across Indian surgeons, to ascertain current perspectives towards nutritional practices and to identify areas for future practice improvement initiatives. A structured, self-administered questionnaire containing 32 questions across 3 categories: appraisal of current practices (n=9), assessment of nutritional supplemental practices (n=10), and understanding perspective and appraisal of current evidence on preoperative nutritional practices (n=13) was used to capture surgeons' responses.

Results

Of the 512 participating surgeons, 31% did not have facility for screening patient's nutritional status while 8% were not aware of availability of such facility. Almost 30% surgeons stated that $\geq 50\%$ patients were malnourished or nutritionally at-risk prior to major surgery, whereas 47% surgeons mentioned that $\geq 20\%$ of their patients were diagnosed with malnutrition in post-surgical follow-up. Almost 78% surgeons mentioned that they themselves perform nutritional screening. Physical examination, serum albumin, total protein, and nutritional history were the common nutritional screening methods. Approximately 20% surgeons mentioned that 50-70% of their patients received nutritional screening and nutritional supplements prior to major surgery. Protein supplements (mostly whey protein) followed by multivitamins were commonly used supplements and mostly recommended for ≥ 8 days pre-surgery and for ≥ 2 weeks post-surgery. Most surgeons (86-88%) agreed that perioperative nutritional supplementation leads to reduced hospital stay, faster recovery and reduced perioperative complications. Surgeons also expressed need for standardized nutritional protocol.

Conclusion

Surgeons recognize importance of perioperative nutritional screening and benefits of basic nutrition therapy. However, unavailability of formal nutrition screening practices indicate need for further work on education, implementation, and identifying needs for nutritional interventions.

The spectrum of celiac disease in the United Arab Emirates. Increased prevalence in patients with dyspepsia

Dr. Makki Fayadh¹

¹*Advanced Center For Day Care Surgery, ABU DHABI, United Arab Emirates*

Introduction

Studies done in Abu Dhabi showed prevalence of positive celiac serology of in 2.3 % of pre marriage testing. The time taken to make the diagnosis may go to more than 10 years; Cases diagnosed are very few because of lack of awareness of the disease by the health care workers.

The presentation of celiac disease in Abu Dhabi is very variable ranging from under nutrition to gross obesity, skin itching, from diarrhea to constipation to mouth ulcers and migraine and epilepsy, some presented with thyroid disease, infertility and gynecological problem and skin diseases.

There is a need to unify the test for celiac disease and to use more sensitive tests like tTGA and the new rapid test for celiac disease which is the de amidated anti gliadin and to stop doing the old anti gliadin antibodies which is not sensitive& to introduce the genetic test for celiac disease HLA DQ2 &DQ8.

Methods

The presentation of celiac disease in UAE according to our local experience: Any of these symptoms can be seen in patient with celiac disease:

- Recurrent mouth ulcer
- Altered bowel motion
- Diarrhea or constipation, all patients labeled with irritable bowel syndrome IBS should be checked for celiac disease.
- Patients with Iron deficiency anemia, vitamin D deficiency,myalgia, arthritis, neuritis and neuropathy, skin lesion of unknown etiology, dental enamel problems .
- Celiac disease if it is left undiagnosed and untreated will lead to the following disease,Lymphoma of small bowel, increase in other cancer of the body, ulceration of small bowel and colon, chronic liver disease and liver cirrhosis.
- Conclusion
- A review of our local experience in Abu Dhabi in celiac disease in 10 years is presented

Artificial intelligence for the detection of angioectasia in device-assisted enteroscopy: a proof-of-concept study

Dr. Tiago Ribeiro^{1,2}, Dr. Miguel Mascarenhas-Saraiva^{1,2,3}, Dr. João Afonso^{1,2}, Dr. Pedro Cardoso^{1,2}, Dr. Hélder Cardoso^{1,2,3}, Prof. João Ferreira⁴, Dr. Patrícia Andrade^{1,2,3}, Prof. Guilherme Macedo^{1,2,3}

¹Department of Gastroenterology, Centro Hospitalar Universitário De São João, , Portugal, ²WGO Training Center, Porto, Portugal, ³Faculty of Medicine of the University of Porto, Porto, Portugal, ⁴Faculty of Engineering of the University of Porto, Porto, Portugal

Background and Aims

Device-assisted enteroscopy (DAE) allows deeper exploration of the small bowel and has the advantage of allowing tissue sampling and endoscopic therapy. Moreover, combined antegrade and retrograde DAE offer the possibility of a panenteric evaluation. Suspected mid-gastrointestinal bleeding (particularly after positive capsule endoscopy) is the most frequent indication for DAE, and angiectasia is the most common lesion. Nevertheless, the detection rate in this setting remains suboptimal (68%).

The application of artificial intelligence (AI) to different endoscopic modalities has produced promising results. Convolutional neural networks (CNNs) are a type deep learning algorithm designed for automatic image analysis. To date, the evidence on the application of these models to DAE is scarce. We aimed to develop and test a CNN for automatic detection of angioectasia in DAE exams.

Methodology

A CNN was developed based on 250 DAE exams, including both antegrade and retrograde DAE. A total of 3795 images were included, 772 images angioectasia, and the remaining showing normal mucosa. A training dataset and a validation dataset, comprising 80% and 20% of the image pool, respectively, were constructed. The output provided by the network was compared to a consensus classification by two DAE experts. The performance of the CNN was evaluated.

Results

Our model automatically detected angioectasia with an accuracy of 95.9%. Our CNN had a sensitivity, specificity, PPV and NPV of 86.5%, 98.3%, 93.1%, and 96.6%, respectively. The AUC was 0.98. The CNN analyzed the validation dataset at a rate of 237 frames per second.

Discussion

The authors developed a pioneer AI algorithm for automatic detection of GI angiectasia in DAE exams. This study paves the way for the development of automated mechanisms for real-time detection of these lesions which may contribute to increase the diagnostic yield of DAE and lead to more efficient treatment of these patients.

Abdominal Tuberculosis: Diagnosis and antimicrobial susceptibility of *Mycobacterium Tuberculosis* in a tertiary care Hospital

Dr. Mostofa Showkat Imran¹, Dr. Amitay Saha², Dr. Faruque Ahmed³, Dr. Md. Masudur Rahman⁴, Dr. S. M. Mostofa Kamal⁵, Dr. Md. Golam Kibria⁶, Mr. Shamim Ahmed⁷, Dr. Towhidul Karim Majumdar⁸, Dr. N. C. Nath.⁹, Dr. ASM Salimullah¹⁰, Dr. Alok Raha¹¹

¹Ibn Sina Medical College & Hospital, Dhaka, Bangladesh, ²Dhaka Medical College, Dhaka, Bangladesh, ³Sheikh Russel Gastroenterology Institute and Hospital, Dhaka, Bangladesh, ⁴Sheikh Russel Gastroenterology Institute and Hospital, Dhaka, Bangladesh, ⁵National Institute of Diseases of the Chest and Hospital, Dhaka, Bangladesh, ⁶Sheikh Russel Gastroenterology Institute and Hospital, Dhaka, Bangladesh, ⁷National Institute of Diseases of the Chest and Hospital, Dhaka, Bangladesh, ⁸Sheikh Russel Gastroenterology Institute and Hospital, Dhaka, Bangladesh, ⁹Cumilla Medical College, Cumilla, Bangladesh, ¹⁰Dhaka Medical College, Dhaka, Bangladesh, ¹¹Sheikh Russel Gastroenterology Institute and Hospital, Dhaka, Bangladesh

Background

To determine the yield of various diagnostic modalities and antimicrobial susceptibility in abdominal tuberculosis patients.

Methodology

Cross section observational study was employed among 73 adult patients with abdominal TB (Based on positive AFB culture, Gene Xpert, histopathology, ascitic fluid ADA and response to anti TB trial) met selection criteria, attended in GHDP of DMCH(May 2016 to April 2018). Demographic profile, clinical features, family and past history of TB, laboratory & MT test, chest and abdominal imaging results, histopathology, Gene Xpert, AFB culture(MGIT 960) and DST reports, ascitic fluid analysis including ADA, findings of UGIT endoscopy, colonoscopy, laparotomy, abdominal site involved (Intestinal, Peritoneal and Nodal) were collected by structured questionnaire.

Result

Mean age was 33.90±15.14 years with a range of 18-70 years. Frequent symptoms were weight loss(96.9%), abdominal pain(75%) and fever(75%). Frequent signs were anaemia(34.4%), ascites(27.9%). 8.21% patients had concomitant active PTB. Diagnostic yield were 59.6%, 46.3%, 13.7% and 94.7% respectively in histopathology, Gene Xpert, AFB culture and ADA in ascitic fluid. Basis of diagnosis were: histopathology in 46.3%, Gene Xpert in 26.02%, Positive AFB on culture in 4.7%, ADA value in ascitic fluid in 24.6% and good clinical response to therapeutic trial of anti-TB in 15.06% patients. Predominant site of involvement was intestinal in 64.3%, peritoneal in 24.6%, nodal in 9.5% and splenic abscess in 1.36% patients. Drug sensitivity pattern was analyzed in all three culture positive patients; resistance was detected in one(3.12%) of all patients and 33.33% of the patients in whom sensitivity was done showing multidrug resistance (MDR TB).

Conclusion

The study results highlighted diagnostic yield of various investigation including newer modalities (Gene Xpert, culture sensitivity in Bactec MGIT 960) and basis of diagnosis in abdominal TB. This study also determined the MTB culture positivity rate from tissue biopsies and demonstrated drug-resistant MTB in culture confirmed abdominal TB.

N Acetylcysteine in Addition to the Standard Regimen for Helicobacter pylori Eradication: A Meta-Analysis

Dr. Denise Marie Nanas¹, Dr. May Anne Pascual¹, Dr. Ernest Abegail Dela Cruz¹

¹*Dr Paulino J Garcia Memorial Research And Medical Center, Cabanatuan Nueva Ecija, Philippines*

Background and Purpose

Antibiotic resistance against the standard treatment for Helicobacter pylori infection is still a medical health concern. Several studies have explored the potential role of N acetylcysteine as an adjunct to the standard treatment of H pylori eradication due to its mucolytic and a thiol-containing antioxidant properties.

However, there is still no uniform view on its efficacy. The study aimed to assess whether the addition of N-acetylcysteine to the standard treatment regimen would affect the eradication rates of Helicobacter pylori infection.

Methodology

We performed a meta-analysis through electronic searches to evaluate the effect of N Acetylcysteine in addition to the standard regimen for Helicobacter pylori eradication.

Results

A total of 4 randomized controlled trials including 945 patients were included in this review. The addition of NAC to the standard treatment regimen for eradication of Helicobacter Pylori infection has no significant difference according to the statistical data (risk ratio (RR): -0.01, 95% CI: -0.04, $P = 0.02$).

Conclusion

N acetylcysteine has no additive effect on the standard treatment regimen in terms of eradication rates of Helicobacter pylori infection.

Efficacy and tolerability of 14-day tegoprazan- versus rabeprazole-based triple therapy for eradication of *Helicobacter pylori*: A real-world evidence study

Prof. Yoon Suk Jung¹, Dr. Sunyong Kim², Dr. Hyung-Young Kim², Dr. Seung Jae Noh³, Prof. Jung Ho Park¹, Prof. Chong Il Sohn¹, **Prof. Chan Hyuk Park³**

¹*Division of Gastroenterology, Department of Internal Medicine, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea*, ²*Preventive Healthcare Center, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine, Seoul, South Korea*, ³*Department of Internal Medicine, Hanyang University Guri Hospital, Hanyang University College of Medicine, Guri, South Korea*

Background and Purpose

Tegoprazan, a novel, fast, and strong potassium-competitive acid blocker, has been approved in Korea for the treatment of gastric acid-related diseases. However, real-world clinical data on this drug are scarce. We aimed to compare the *Helicobacter pylori* eradication rates of tegoprazan- and rabeprazole-based triple therapies.

Methods

We retrospectively reviewed data of patients who received first-line treatment for *H. pylori* infection using tegoprazan- or rabeprazole-based triple therapy for 2 weeks ('tegoprazan 50 mg or rabeprazole 20 mg' + amoxicillin 1,000 mg + clarithromycin 500 mg twice a day). The primary endpoint was the eradication rate in the intention-to-treat (ITT) analysis.

Results

677 included patients, 344 and 333 received tegoprazan-based and rabeprazole-based triple therapy, respectively. The eradication rate in the ITT analysis was 76.7% (95% confidence interval [CI], 72.1%–81.0%) for the tegoprazan-based triple therapy and 75.4% (95% CI, 70.5%–79.8%) for the rabeprazole-based triple therapy. No significant difference in the eradication rate was identified between the two groups ($P>0.999$). The per-protocol analysis also showed no significant difference between the groups (tegoprazan: 83.4% [95% CI, 79.0%–87.2%] vs. rabeprazole: 83.5% [79.0%–87.4%], $P>0.999$). Furthermore, there was no significant difference in adverse event rates between the two groups (tegoprazan, 27.6%; rabeprazole, 25.8%; $P=0.604$).

Conclusions

The eradication rate of tegoprazan-based triple therapy was similar to that of rabeprazole-based triple therapy. Further studies on the dose-escalation effect of tegoprazan for *H. pylori* eradication and the efficacy of tegoprazan in regimens other than the conventional triple therapy are needed.

Dyspepsia - The Indian Perspective: A Real World Evidence from across India (POWER STUDY)

Dr. Kranthi Kiran Pebbili¹, Dr Bharadwaja Pendurthi¹, Dr Shashank Ashit Desai¹, Dr. Randhir Sud¹

¹Dr Reddys Laboratories Pvt Ltd, Hyderabad, India

Background and Purpose

Dyspepsia includes a spectrum of symptoms ranging from epigastric pain, early satiety to post-prandial fullness. The worldwide prevalence of dyspepsia is in-between 20-30%, with slightly higher prevalence in Western population and women. While precise prevalence data of Dyspepsia in India is not available, different studies estimate it to be in the range of 7.6-49%. Through our current study we wanted to understand the demographics, clinical profile and presentation of Indian patients with dyspepsia.

Methodology

This multi-centric, pan-India, cross-sectional, questionnaire-based, non-interventional, observational study was conducted between February-October 2021 in patients >18 years, with a clinical diagnosis of any form of Dyspepsia. Descriptive statistics were used for categorical variables, and between-group comparisons were made using Fischer's exact test, with $p < 0.05$ denoting statistical significance.

Results and Discussions

A total of 3,739 patients from across 29 states of India participated in the study. Most of the patients were male (70.8%) and are from urban areas (56.8%). Highest percentage of patients were aged 31-40 (33.8%) and most patients (60.2%) had dyspepsia for a duration of 6-12 months. Patients with Functional Dyspepsia (78.5%) were significantly higher compared to Organic dyspepsia (21.5%) ($p < 0.001$). The most frequent presenting symptoms were epigastric pain, nausea, vomiting, and heartburn. A quarter (25.6%) of the Dyspepsia patients were associated with various comorbid conditions, of which, Diabetes Mellitus, Hypertension and Irritable Bowel Syndrome are the most common ones.

Conclusions

Our study involving over 3700 Indian patients with Dyspepsia adds to the growing knowledge of Dyspepsia in India. Dyspepsia is more prevalent in males and in the 31-50 age group. Functional Dyspepsia is the most common form and Dyspepsia is associated with multiple comorbidities like Diabetes. In the backdrop of paucity of reliable data about dyspepsia in India, our study results provide valuable insights into the disease burden in Indian setting.

Patient Satisfaction with PPIs in Dyspepsia: A Real-World Evidence from India (POWER STUDY)

Dr. Kranthi Kiran Pebbili¹, Dr Shashank Ashit Desai¹, Dr. Randhir Sud¹

¹Dr Reddys Laboratories Pvt Ltd, HYDERABAD, India

Background and Purpose

Dyspepsia includes a spectrum of symptoms like epigastric pain, early satiety and post-prandial fullness. PPIs are considered as mainstay in Dyspepsia management. Studies suggest that dyspepsia is associated with reduction in overall quality of life and causes considerable distress in patients. Through this study, we evaluated satisfaction levels with various PPIs among Dyspepsia patients.

Methodology

This multi-centric, pan-India, cross-sectional, questionnaire-based, non-interventional, observational study was conducted between February-October 2021 in patients >18 years, with clinical diagnosis of any form of Dyspepsia and treated with PPIs. Patient satisfaction with PPIs was evaluated using a 13 point questionnaire. Descriptive statistics were used for categorical variables, and between-group comparisons were made using Fischer's exact test.

Results and Discussions

A total of 3,739 patients from across 29 states of India participated in the study with majority patients being male, from urban regions and in age group of 31-50 years (61.8%). Most patients (60.2%) had dyspepsia for a duration of 6-12 months. The patient satisfaction analysis showed that overall patients were satisfied with PPIs, as most patients (~80%) agreed to almost all questions, like 'immediate relief from acidity' (84.7%), 'symptoms completely under control' (81.4%), 'Relief from night-time acidity symptoms' (84.4%), 'not found safety issues over long-term' (88.1%). The analysis for individual PPIs showed highest 'agree' responses in the Rabeprazole group for almost all questions (12 of 13), with 86.4% patients on Rabeprazole agreeing for 'immediate relief from acidity', 84.9% for 'gives me complete relief', and 85.9% for 'Relief from night-time acidity symptoms'.

Conclusions

The results of our real-world study showed that overall patients were satisfied with PPIs in Dyspepsia management in India. Patients on Rabeprazole showed higher levels of medication adherence; higher satisfaction levels in symptom relief, convenience of therapy, cost-effectiveness of therapy and safety compared to patients on other PPIs.

Hybrid therapy, the best option for the eradication of *Helicobacter pylori*? A systematic-review and meta-analysis

Dr. Maria José Temido, Dara Mbanze, Prof. Nuno Almeida, Prof. Bárbara Oliveiros, Prof. Pedro Figueiredo

¹*Centro Hospitalar E Universitário De Coimbra, Coimbra, Portugal*

Background and Purpose

Hybrid therapy (HT) is a non-bismuth quadruple therapy created to surpass *Helicobacter pylori* (Hp) resistance to antibiotics. HT has excellent eradication rates, as well as excellent compliance and safety profiles. We aim to compare HT with sequential therapy (ST) and concomitant therapy (CT) for the eradication of Hp.

Methodology

This systematic review was conducted following the principles of the PRISMA 2015 guidelines. Literature was electronically searched on the Cochrane Central library, PubMed, Scopus, LILAC, and ClinicalTrials.gov. Only randomized controlled trials were included. Primary outcome evaluated was eradication rate of Hp. The secondary outcomes evaluated were rates of adverse effects and of compliance. Meta-analyses were performed with Cochrane Review Manager 5.4. The Mantel-Haenszel method was used to estimate the pooled relative risk and 95% CI of the eradication rates between HT and other eradication therapies, as well as the secondary outcomes.

Results and Discussions

10 studies were included, involving 2993 patients. The mean eradication rates achieved by HT with intention-to-treat (ITT) and per-protocol (PP) analyses were, respectively, 86% (range: 79.2-90.8%) and 91.7% (range: 82.6% to 96.1%). No statistically significant difference was found in ITT eradication rate between HT and CT (relative risk: 1; 95% CI: 0.96, 1.03) and between HT and ST (relative risk: 1.02; 95% CI: 0.92, 1.14). PP analysis showed similar results. HT was associated with higher compliance rates than CT, but lower than ST. As far as adverse events are concerned, this meta-analysis revealed a slightly higher occurrence of adverse events on the group of patients treated with HT. These differences were not statistically significant.

Conclusion

HT has similar eradication, compliance and adverse event rates when compared to sequential and concomitant regimens and is another valuable option for Hp eradication.

Analysis of Additional Benefits of Bismuth for Helicobacter pylori eradication treatment: a single-center retrospective analysis

Dr. Hyundam Gu¹, Dr. David Shin¹, Dr. DaeYoung Cheung¹

¹*Division of Gastroenterology, Department of Internal Medicine, The Catholic University of Korea St Mary's Hospital, Seoul, South Korea*

Purpose

Bismuth has bacteriostatic and bactericidal effects against Helicobacter pylori. When administered in combination with antibiotics, the eradication effect can be improved.

Method

This study is a single-center retrospective analysis. From January 2018 to November 2021, patients diagnosed with Helicobacter pylori infection at the Catholic University of Korea Yeouido St. Mary's Hospital and treated with clarithromycin-based standard three-drug therapy were identified through a medical record search. The test group was treated by adding bismuth (1 tablet twice a day) to the standard triple therapy, and patients treated with the standard triple therapy were enrolled as the control group in doubled.

Results

During the study period, a total of 58 cases were treated by adding bismuth to the standard triple therapy based on clarithromycin. 116 patients treated with standard triple therapy were enrolled as control groups for comparative analysis. The test group (AOCB) comprised 58 patients, and 6 patients without a clarithromycin resistance-related gene mutation received 1-week therapy. After the Helicobacter pylori eradication treatment of the test group and the control group, the negative rates of the UBT test were 100% and 86.2%, which was a significant difference (p-value 0.003, OR 1.580, 95% CI; 1.403-1.779). The difference in eradication rate according to the addition of bismuth was the same regardless of the administration period (for both 1-week and 2-week therapy).

Conclusions

With bismuth added to the standard triple therapy, the success rate of Helicobacter pylori eradication improved from 86.2% to 100%. The additional benefit of eradication following the administration of bismuth was equally effective in both 1-week and 2-week therapy.

The impact of the difference in total diameter of metastatic tumor as a prognostic factor for advanced gastric cancer treated with systemic chemotherapy

Dr. Yusuke Sasaki¹, Dr. Arata Onuma¹, Dr. Jojo Hirota¹, Dr. Jun Konno¹

¹*Hakodate Central General Hospital, Hakodateshi, Japan*

Background and Purpose

In a previous study, patients with resectable gastric cancer and enlarged lymph nodes that had a diameter ≥ 15 mm preoperatively were found to have worse outcomes. However, data on the significance of metastatic tumor diameter for stage IV gastric cancer treated with systemic chemotherapy are not available.

Methodology

This is a retrospective review of patients who received chemotherapy with fluoropyrimidine and platinum for stage IV gastric cancer at our institution between January 2010 and June 2021. Tumor lesions with long-axis diameters ≥ 10 mm and lymph nodes with short-axis diameters ≥ 15 mm as measured on CT scan before chemotherapy were regarded as measurable lesions. Patients were divided into groups based on the total diameters of all measurable lesions. Patient characteristics, toxicities, and survival were compared between the groups.

Results and Discussions

Among the 145 patients who received fluoropyrimidine and platinum based chemotherapy for stage IV gastric cancer, 88 had measurable lesions. The median total diameter was 53 mm, and 55 mm was set as the cut-off value for grouping patients into large (≥ 55 mm) and small (< 55 mm) metastases groups. There were no significant differences in patient characteristics between the groups. Overall survival (OS) was significantly shorter in the large metastases group than in the small metastases group (9.8 vs. 15.9 months; hazard ratio (HR) = 1.88; $p = 0.01$). There was a similar trend in progression-free survival (4.0 vs. 6.9 months; HR = 1.69; $p = 0.03$). Both univariate and multivariate analysis showed that a large diameter was the only independent prognostic factor for OS. A correlation analysis revealed a statistically significant correlation between total diameter and OS.

Conclusions

A total metastatic tumor diameter ≥ 55 mm was a negative prognostic factor for advanced gastric cancer treated with systemic chemotherapy.

Rare Finding of Gastric Lipoma on Endoscopic Ultrasound

Dr. Nabiha Haider¹, Dr. Amna Haider, Dr. Muhammad Khan, Dr. Ashrif Al-Ghanoudi

¹*Franciscan Health-OF, , United States*

The five layers of the gastric wall are mucosal, muscularis mucosa, submucosal, muscularis proper, and serosa. A lesion in one of these layers is referred to as a subepithelial lesion (SEL). A few of the most common SEL are gastrointestinal stromal tumors, leiomyomas, lipomas, granular cell tumors, and carcinoid tumors. The lesions can be classified as benign, malignant, potentially malignant notably via endoscopic ultrasound (EUS). Of the SEL, lipomas are slow growing, benign tumors that typically arise in the colon, ileum, and jejunum. Lipomas in the stomach are rare and account for 1-3% of cases which are typically located in the submucosal layer. Here we present an unexpected finding of a gastric lipoma.

A 61 yo male with a history of gastritis, diverticulosis, and tobacco use presents for evaluation of abdominal mass. Three years ago, patient presented with symptoms of acid reflux for which he underwent endoscopic evaluation. Findings at the time showed a benign gastric lesion in the greater curvature of the stomach and gastric biopsy showed chronic gastritis. He underwent evaluation of the gastric mass via EUS which revealed a subepithelial lesion in the greater curvature of the stomach which appeared to originate from within the submucosa. Lesion appeared hyperechoic and homogenous making it highly suspicious for a lipoma. Biopsy was not obtained given characteristics.

Gastric lipomas are rare, asymptomatic and usually discovered incidentally. When symptomatic, lipomas are managed by removal, whereas, asymptomatic lipomas are managed expectantly. They do not require surveillance as malignant transformation is rare. A tunneled biopsy is required for definitive diagnosis, but is not typically done due to the invasive nature of the procedure. Instead, EUS and CT abdomen with contrast are utilized. Our patient's lipoma was managed conservatively. This case highlights consideration of rare gastric lipomas when evaluating gastric mass.

Triple Therapy-Based on Tegoprazan, a New Potassium-Competitive Acid Blocker, for First-Line Treatment of Helicobacter pylori Infection: A Randomized, Double-Blind, Phase III, Clinical Trial

Prof. Yong Chan Lee¹, Mrs. Yoon Jin Choi¹, Prof. Jung Mogg Kim², Jin Il Kim³, Jeong Seop Moon⁴, Yun Jeong Lim⁵, Gwang Ho Baik⁶, Byoung Kwan Son⁷, Hang Lak Lee⁸, Kyoung Oh Kim⁹, Nayoung Kim¹⁰, Kwang Hyun Ko¹¹, Hye-Kyung Jung¹², Ki-Nam Shim¹², Hoon Jai Chun¹³, Byung-Wook Kim¹⁴, Hyuk Lee¹⁵, Jie-Hyun Kim¹⁶, Hyunsoo Chung¹⁷, Sang Gyun Kim¹⁷, Jae Young Jang¹⁸

¹Yonsei University College Of Medicine, Seoul, South Korea, ²Hanyang University College of Medicine, Seoul, South Korea, ³Yeouido St. Mary's Hospital, Seoul, South Korea, ⁴Seoul Paik Hospital,, Seoul, South Korea, ⁵Dongguk University, Seoul, Korea, ⁶Hallym University Chuncheon Sacred Heart Hospital, , ⁷Uijeongbu Eulji Medical Center, , ⁸Hanyang University Medical Center, , ⁹Gachon University Gil Medical Center, , ¹⁰Seoul National University Bundang Hospital, , ¹¹CHA Bundang Medical Center, , ¹²Ewha Womans University, , ¹³Korea University College of Medicine, , ¹⁴Incheon St. Mary's Hospital, , ¹⁵Samsung Medical Center, , ¹⁶Gangnam Severance Hospital, , ¹⁷Seoul National University Hospital, , ¹⁸College of Medicine, Kyung Hee University, ,

Background/Purpose

We examined the efficacy and safety of tegoprazan as a part of first-line triple therapy for Helicobacter pylori eradication.

Methodology

A randomized, double-blind, controlled, multicenter study was performed to evaluate whether tegoprazan (50 mg)-based triple therapy (TPZ) was non-inferior to lansoprazole (30 mg)-based triple therapy (LPZ) (with amoxicillin 1 g and clarithromycin 500 mg; all administered twice daily for 7 days) for treating H. pylori.

The primary endpoint was the H. pylori eradication rate. Subgroup analyses were performed according to the cytochrome P450 (CYP) 2C19 genotype, the minimum inhibitory concentration (MIC) of amoxicillin, clarithromycin, and underlying gastric diseases.

Results and discussion

In the current study, 350 H. pylori-positive patients were randomly allocated to the TPZ or LPZ group. The H. pylori eradication rates in the TPZ and LPZ groups were 62.86% (110/175) and 60.57% (106/175) in an intention-to-treat analysis and 69.33% (104/150) and 67.33% (101/150) in a per-protocol analysis (non-inferiority test, p=0.009, and p=0.013), respectively. Subgroup analyses according to MICs or CYP2C19 did not show remarkable differences in eradication rate. Both first-line triple therapies were well-tolerated with no notable differences.

Conclusions

TPZ is as effective as proton pump inhibitor-based triple therapy and is as safe as first-line H. pylori eradication therapy but does not overcome the clarithromycin resistance of H. pylori in Korea (ClinicalTrials.gov identifier NCT03317223).

Effect of Helicobacter pylori Eradication on Metabolic Profile: An International, Multicenter, Case-Control Study

Prof. Pezhman Alavinejad¹, Eskandar Hajiani¹, Abazar Parsi¹, Azam Satari¹, Mohammad Javad Rezaei¹, Morteza Nayeibi², Ahmad Hormati³, Omid Eslami⁴, Mohammed Hussien Ahmed⁵, Quang Trung Tran⁶, Masoud Arshadzadeh⁷, Siamak Baghaee¹, Samira Mohammadi¹, Seyed Jalal Hashemi¹, Alireza Sedaghat¹
¹Ahvaz Jundishapur university of medical sciences, , Iran, ²Iran University of Medical Sciences, Tehran, Iran, Tehran, Iran, ³3. Gastrointestinal and liver Diseases Research Center, Firouzgar Hospital, Iran University of Medical Sciences, Tehran, Iran, Tehran, Iran, ⁴4. Clinical Research Development Unit, Afzalipour Hospital, Kerman University of Medical Sciences, Kerman, Iran, Kerman, Iran, ⁵5. Lecturer Hepatology Gastroenterology and infectious diseases, Faculty of Medicine, Kafrelsheikh University, , Cairo, , Egypt, ⁶6. Department of Internal Medicine, University of Medicine and Pharmacy, Hue University, Vietnam, Hue, Vietnam, ⁷7. Department of Gastroenterology, Tehran University of Medical Sciences, Tehran, Iran, Tehran, Iran

Background

As a gram-negative and microaerophilic bacterium, *Helicobacter pylori* (HP) is the main cause of chronic gastritis. Therefore, considering the high prevalence of HP infection worldwide, as well as the increasing prevalence of metabolic disorders, the present study aimed to investigate the relationship between HP infection eradication and metabolic profile.

Methods

This prospective case-control study was performed on patients with HP infection whom referred to 8 medical centers in 3 countries (Iran, Egypt, and Vietnam) in 2020 – 2021. The metabolic profile of all of the participants evaluated before starting of treatment for HP eradication and 3 months after the treatment. Then changes of metabolic profile compared between those with successful HP eradication (group A) and subjects who failed to eradicate (group B).

Results

Overall 199 patients included (46.7% male, average age 44.6 y, range 14-93). Racially 86.9% of participants were Caucasian. 177 cases (88.9%) diagnosed as non-ulcer dyspepsia (NUD). The most prevalent therapeutic regimens include high dose amoxicillin dual therapy (44.7%) and clarithromycin base (27.1%). After treatment, 164 cases (82.4%) achieved successful HP eradication and allocated as group A. Rest of participant who failed eradication, assigned as group B (35 cases). Baseline demographic characters of 2 groups were equal. Average changes of BMI after treatment in groups A and B were -0.1 and -0.4 respectively ($P=0.258$). Except mild and non-significant increase of average HDL and LDL cholesterol in group A (+1 and +2.5 mg/dL respectively), versus no change in of these items in group B, other parameters of metabolic profile did not showed any changes after HP infection treatment regardless of successful eradication or treatment failure ($P>0.05$).

Conclusion

HP infection treatment in individuals without significant metabolic disorders does not affect metabolic parameters up to 3 months after eradication.

Fecal microbiota transplantation (FMT) on irritable bowel syndrome (IBS): A randomized, placebo-controlled, double-blind study

Dr. Varocha Mahachai², Dr. Natsuda Aumpan¹, Dr. Bubpha Pornthisarn¹, Dr. Soonthorn Chonprasertsuk¹, Dr. Sith Siramolpiwat^{1,2}, Dr. Patommatat Bhanthumkomol¹, Dr. Pongjarat Nunanan¹, Dr. Navapan Issariyakulkarn¹, Dr. Ratha-korn Vilaichone^{1,2}

¹International Center of Excellence in Digestive Diseases and Gastroenterology Unit, Department of Medicine, Thammasat University, Pathumthani, Thailand, ²Chulabhorn International College of Medicine (CICM) at Thammasat University, Pathumthani, Thailand

Background: Irritable bowel syndrome (IBS) is a common functional bowel disorder with recurrent abdominal pain. Gut microbial dysbiosis contributes to pathogenesis of IBS. Stool bank was successfully established in Thailand 2 years ago. Fecal microbiota transplantation (FMT) has provided tentative beneficial results in patients with IBS in previous trials. This study aimed to compare efficacy of FMT with placebo in IBS patients.

Methods

Patients aged 18-70 years with IBS defined by Rome IV criteria at Thammasat University Hospital were enrolled between April and November 2021. Patients were randomized 1:1 to receive 50 grams of FMT or placebo via rectal enema. The primary outcome was clinical response defined by a decrease in IBS-symptom severity score (IBS-SSS) by ≥ 50 points at 4 weeks after FMT.

Results

Patients had mean age of 48.6 years and 40% of whom were males. Baseline characteristics were similar between 2 groups. The mean IBS-SSS at baseline were comparable between groups. There was a significant improvement of IBS-SSS (161.0 ± 106.1 vs. 264.0 ± 71.7 , $p=0.020$), overall clinical response (2 weeks: 70% vs. 10%, $p=0.020$, 4 weeks: 80% vs. 20%, $p=0.007$), abdominal pain score (2 weeks: 4.3 ± 1.3 vs. 5.8 ± 1.4 , $p=0.025$, 4 weeks: 2.8 ± 1.8 vs. 5.2 ± 1.8 , $p=0.008$), and abdominal distension score (4 weeks: 3.0 ± 2.6 vs. 5.4 ± 1.8 , $p=0.028$) after FMT compared with placebo. A significant mean reduction in abdominal pain score (-49% vs. -19% , $p=0.045$), and abdominal distension score (-53% vs. -19% , $p=0.042$) was also demonstrated at 4 weeks after FMT. The quality of life scores significantly improved in FMT group after treatment (13.3 ± 8.0 vs. 20.2 ± 5.1 , $p=0.033$) as demonstrated in table 1 and figure 1. Only minor adverse events such as mild abdominal pain, nausea, and diarrhea, were reported and were not different between 2 groups. No serious adverse event was observed.

Conclusions

FMT via rectal enema improve overall clinical response, IBS-SSS and quality of life scores. FMT might be an alternative effective treatment for patients with IBS.

The Use of Artificial Intelligence in Colonoscopy Improves Adenoma Detection Rates and inversely reduces the risk of interval colorectal cancer; First Comparative Study in UAE;

Dr. Mazin Aljabiri¹, Usama Warshow Alexandra Deduchova¹, Rola Saadi¹, Ammar Al Hassan¹, Joyce Villanuev¹, Jam Tomagan¹, Archebal Alimagno¹, Liji George¹, Saranya Das¹, Joven Dadang, Kamille Paz¹¹, Allysa Badong¹, Antonette Santos¹

¹*Mediclinic Parkview Hospital, Dubai, United Arab Emirates*

Background

Globally, colorectal cancer (CRC) is the third most commonly diagnosed cancer in males and the second in females, with the second-highest cancer mortality rate(1). Adenomas are a major precursor lesions for CRC and as such adenoma detection rate (ADR) is an important and well recognized quality indicator of colonoscopy-based screening & surveillance worldwide. ADR is defined as the fraction of patients undergoing first-time screening colonoscopy who have one or more conventional adenomas detected and identified by pathology. The recognised minimum quality standard in a mixed-gender screening population is 25%. It is estimated that for every 1% increase in ADR, a patient's risk of developing colon cancer over the next year decreases by 3%(2) . Therefore, recent evidence suggestions have aspired to ADR threshold up to 39-50% to provide increased protection against post-colonoscopy interval cancer occurrence(3,4,5) Furthermore, raising the ADR leads also to reduction in Adenoma Miss Rate (AMR) (6), Artificial intelligence-assisted colonoscopy (AIAC) has gained attention as a tool to assist with polyp detection during colonoscopy(6) . Artificial intelligence-assisted colonoscopy (AIAC) systems are intended to address the issue of missed polyps during colonoscopy. The effect of AIAC on ADR during screening and surveillance colonoscopy has not previously been studied in United Arab Emirates (UAE).

Aim

To assess and compare, for the first time in UAE, the use AIAC and its effect ADR in patients undergoing screening or surveillance colonoscopy.

Method

A single-centre study at Mediclinic Parkview Hospital, Dubai, UAE. The AIAC system module was utilized by five experienced endoscopists. Outcomes of consecutive surveillance colonoscopies performed for the period Apr-Dec 2020 without the use of AI & Following introduction of AI for the period Jan-Sept 2022.Comparative analysis was carried out between the two cohorts, in particular ADR. Our centre ADR was consistently above 20% over the last 10 years

Results

Males 51%, females 49% .indications for colonoscopy were PR bleeding, Change in bowel habits, weight loss and surveillance for FHx of polyps/cancer or abnormal imaging. A total of AIAC prospectively were compared with 666 from retrospective cohort with AI unaided colonoscopies for the period between Apr – Dec 2020 & 858 AIAC procedures. The overall polyp detection rate (PDR) was r between groups (392 vs 640); the chi-square statistic is 7.7532. The p-value is 0.005362. Significant at $p < .05$. The adenoma detection rate was significantly higher in the AIAC group compared to the and Unassisted colonoscopy is (31.25% vs 23.1%)

Conclusions

Our Study demonstrates that AIAC resulted in a statistically significant increase in ADR (8.15%) with Prior to AI ADR detection was 23% and Post introduction of AI in colonoscopy increase to 31.25%, demonstrating the value of AIAC in a real-life cohort as ADR is an established performance indicator in colonoscopy and are inversely associated with the risks of interval colorectal cancer.(7). We recommend that all public and private sector hospitals consider implementing AIAC to improve quality of colonoscopy and optimise ADR.

Adipose tissue-derived hormones as potential biomarkers of pancreatic adenocarcinoma

Dr. Aida Saray¹, Dr. Orhan Leparo², Dr. Amina Valjevac², Dr. Vedad Papovic¹, Dr. Sanjin Glavas¹, Dr. Amila Mehmedovic¹, Dr. Nerma Custovic¹, Dr Jasminko Huskic²

¹Department of gastroenterohepatology, Clinical Center University of Sarajevo, Sarajevo, Bosnia and Herzegovina,

²Department of Physiology, Faculty of Medicine University of Sarajevo, Sarajevo, Bosnia and Herzegovina

Background and Purpose

The association between obesity and cancer as well as the role of adipose tissue-derived hormones in this relationship are an evolving area of research. Epidemiological studies have indicated that low prediagnostic plasma adiponectin levels are associated with an elevated risk of pancreatic cancer (PC). However, the role of adipokines in PC patients have not been well studied before. The aims of the study were to analyze plasma concentrations of adipokines in PC patients and to compare these concentrations to clinicopathological parameters.

Methods

Baseline levels of serum adiponectin and leptin were determined in 51 consecutive patients with PC and followed up for the median period of 18 months. 51 Control subjects were matched to case patients by age, sex and BMI. The association between variables were evaluated using nonparametric Spearman's correlation test. Logistic regression analysis was used to evaluate the association of independent variables with one dependent variable. Receiver operating characteristics (ROC) analysis was employed to calculate the area under the curve (AUC). Survival analysis used the Kaplan-Meier curve.

Results

Strong inverse correlation between adiponectin concentrations and tumor size ($r = -0.934$, $p < 0.1$) in PC patients were observed. At ROC analysis the diagnostic profiles of adiponectin for detecting PC was high (AUC 0.874; sensitivity 84.3%; specificity 80.3%). Kaplan-Meier global survival analysis revealed that low adiponectin levels were associated with poorer survival compared to patients with high adiponectin levels (cut-off 3,3 mg/L) (log-rank (χ^2): 5.02, $p < 0.001$). Logistic regression analysis demonstrated that low leptin levels were independent predictors of cachexia among PC patients (OR=0.359, $p < 0.05$).

Conclusion

A novel finding of this study was that adiponectin levels showed high specificity and sensitivity in detection of PC suggesting a potential role as an indicator of disease. Our results suggest that adiponectin levels might provide prognostic information in predicting survival and leptin levels in predicting cancer cachexia. However, the potential role of adipokines as an indicator of PC disease requires further evaluation.

Prevalence of hyposplenism and hyposplenism in patients with celiac disease

Dr. Macarena Antoniello¹, Dr. Paola Turcatti², Dr. Natalia Neira², Dr. Cecilia Canessa², Dr. Virginia López¹, Prof. Carolina Olano¹

¹Gastroenterology Department. School of Medicine. Universidad de la República., Montevideo, Uruguay, ²Laboratory Department. School of Medicine. Universidad de la República., Montevideo, Uruguay

Celiac disease (CD) is an autoimmune chronic systemic disease triggered by gluten proteins that affect many organs, especially the small intestine, in genetically predisposed individuals. One of its extraintestinal presentations is decreased spleen function (hyposplenism) and splenic size (hyposplenism). This study aims to determine the prevalence of hyposplenism and hyposplenism in patients with CD, the demographic characteristics of patients with hyposplenism or hyposplenism, and to determine if there is an association between the presence of specific antibodies and the morphological and functional features of the spleen. CD was defined by the presence of at least one positive specific antibody plus the presence of the characteristic histological findings (Marsh II and III) at the diagnosis. Patients under 16 or with other possible causes of hyposplenism were excluded. Hyposplenism was defined by US measurement (95 mm of diameter). Hyposplenism was characterised by the presence of Howell-Jolly bodies in the peripheral lamina (using optical microscopy with May-Grünwald Giemsa staining). Fifty patients were included, and 84% were women. The mean age was 51 years (± 2.4) and 62% had positive CD antibodies. The prevalence of hyposplenism and hyposplenism was 68% and 10%, respectively. 14.7% of the patients with hyposplenism also had hyposplenism. No significant difference was found between the presence of CD specific antibodies and hyposplenism or hyposplenism ($p=0.162$ and $p=0.275$). In conclusion, in this group of celiac patients, the prevalence of hyposplenism was comparable with international data, whereas the prevalence of hyposplenism was lower than in other series. The concomitance of hyposplenism and hyposplenism was low (14.7%). No statistically significant association was found between the presence of CD antibodies and the morphological and functional splenic features.

Prevalence of Irritable Bowel Syndrome and other Functional Bowel Disorders in Uruguay

M.D. Verónica Guido¹, M.D., M.Sc Yessica Pontet¹, M.D. Virginia Lopez¹, M.D., M.Sc (Ed) Carolina Olano¹

¹*Clínica de Gastroenterología Prof. Dra. Carolina Olano, Hospital de Clínicas, Montevideo, Uruguay*

Introduction and aims

Irritable bowel syndrome (IBS) is one of the most common functional bowel disorders (FBD). Global prevalence is estimated at 11%. Information about the prevalence of other FBD is scarce. The aim was to determine the Uruguayan prevalence of IBS and other FBD according to Rome IV criteria.

Methods

This is an observational population-based prevalence study in which data was collected via the internet (online questionnaire), using Rome IV criteria.

Results

1052 participants were included (79% were women with an average age of 44 years) and 47.2% met Rome IV criteria for at least one of the FBD studied. Functional constipation (FC) was the most frequent with 18.7% (16.4-21.1), followed by IBS 17.1% (14.9-19.4) and functional diarrhea (DF) with 15.4% (13.3-17.6). IBS-C was the most prevalent (35%), and IBS-D predominated in men. All FBD were more prevalent among women and young people. Regarding the influence of the COVID-19 pandemic, 59% of participants with FBD denied worsening of their symptoms.

Conclusions

This study is the first to be carried out in Uruguay on the prevalence of FBD and also the first of IBS that considered the general population. Half of the individuals presented at least one of the FBDs studied. FC was the most prevalent, followed by IBS and FD. The prevalence rate of IBS detected was the highest reported using Rome IV diagnostic criteria and the most frequent subtype was constipation.

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