

# JOINT EVENT



13<sup>th</sup> International Conference on  
**Pediatric Gastroenterology Hepatology & Nutrition**  
&  
3<sup>rd</sup> International Conference on  
**Digestive and Metabolic Diseases**

October 22-23, 2018 Berlin, Germany

## Posters

*Pediatric Gastro 2018 & Digestive Diseases 2018*

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**Immunohistochemical study of the stem cell marker Foxl1 in bile ductular proliferation and liver cell regeneration in liver biopsies from infants with cholestasis****Basma Elhaddad, Dina Abdalla and Mona Abdel-Hadi**  
Alexandria University, Egypt

Liver cell regeneration takes place through mature hepatocytes. However, in cases of chronic or severe injury, an alternative pathway takes place through proliferation of hepatic progenitor cells (HPCs). The aim of the study was to investigate the distribution and number of Foxl1 positive HPCs in the liver of infants with different cholestatic diseases. Therefore, immunohistochemistry using Foxl1 antibody (ab190226) was conducted on 53 formalin fixed paraffin embedded blocks of liver biopsies from infants with neonatal cholestasis with the following diagnoses: 30 cases of extra hepatic biliary atresia (EHBA), 11 cases of paucity of intrahepatic bile ducts (PIBD), eight cases of idiopathic neonatal giant cell hepatitis (NGCH) and four cases of galactosemia. Trichrome staining was done to assess the stage of fibrosis according to a previously published modified scoring system. Foxl1 positive cells were seen in the periportal area and their numbers were much higher in liver biopsies obtained from infants with EHBA compared to the other diagnoses. Significant positive correlations were found between the number of HPCs and stage of fibrosis, degree of ductular proliferation, the presence of portal tract neutrophils as well as higher levels of serum gamma glutamyl transferase. In conclusion, HPCs are markedly activated in EHBA and their activation might be the reason for the associated ductular proliferation and fibrosis. However, the type of inflammatory infiltrate might play a role in HPCs activation as well. This may help to guide further research on animal models to design HPC-based anti-fibrotic therapies for cholestatic liver diseases.

**Biography**

Basma Elhaddad is a Faculty Member (Demonstrator) at the Pathology Department, Faculty of Medicine, Alexandria University, Egypt. She graduated from the Faculty of Medicine, Alexandria University in 2010 (MBBCh). She is pursuing Master's Degree student with a thesis in the Pathology of Gastrointestinal tract and liver "Master of Basic Medical Sciences in Pathology (MSc.); GPA: Excellent with Honour"

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**Using skin-to-skin contact to increase exclusive breastfeeding at maternity & children hospital**

**Eman Al Zayed and Muna Al- Harthi**  
Maternity & Children Hospital, Saudi Arabia

**Introduction:** Several studies showed that SSC (skin-to-skin contact) in the early postpartum period is an effective method to increase exclusive breastfeeding (BF) rate during the hospital stay and strengthen continuation of breastfeeding, which end with excellent outcomes.

**Objective:** The purpose of this study to determine if immediate skin-to-skin contact after full term normal vaginal birth had an impact on exclusive breastfeeding rates at time of discharge.

**Method:** Retrospective data analysis from medical records and BF committee records were reviewed. We implemented the WHO recommendations in a baby friendly hospital as listed step four from the ten steps to successful breastfeeding to practice SSC for healthy full term newborns delivered by normal vaginal delivery at a large health institution – Maternity and Children Hospital (MCH) in Dammam Saudi Arabia between 2014-2017 followed an education program on SSC after birth was given to the nurses and midwives staff in the delivery ward. Education included definitions and benefits of skin-to-skin contact, its role in successful breastfeeding and practical session. SSC duration was between 30-40 min less than the recommended time by the WHO - 60 min due to some limitations.

**Results:** Through this study, after staff training the hospital's absolute improvement in SSC reached 36.75% which has an impact on absolute improvement in exclusive breastfeeding reached 100% and the first feed by 97.6% during the period between 2014-2017.

**Conclusion:** The improvement in exclusive breastfeeding following staff training on SSC practice after birth is comparable to other studies and even short time SSC can make a big difference in breastfeeding outcomes.

**Key words:** exclusive breastfeeding, skin-to-skin contact

**Definition:** Exclusive breastfeeding defined as no other liquid or solid fed to the infant except for medication..

**Biography**

EMAN is a family medicine specialist work in primary health care center in Dammam Work in Antenatal clinic in MCH-Dammam and Head of health education unit for 2years, Breastfeeding committee until now. She also lead as Head of breastfeeding support administration in eastern province She took certificate in train the trainer course on breastfeeding counseling and trainer herself in several breastfeeding courses inside and outside the hospital. She worked as External assessor for baby friendly health facilities. Being a Certified international lactation consultant (IBCLC) on Oct 2016 she is also Member of Academy of breastfeeding medicine (ABM) and Member of international lactation consultant association (ILCA)

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**A curious case of dysphagia****Puneet Pal Singh and Bhavna Gilani**

Basildon and Thurrock University Hospitals - NHS Foundation Trust, UK

A sixty three year old gentleman with a history of bipolar disorder was admitted with 2 day history of pyrexia, non productive cough and collapse. On further questioning, patient complained of a 10 months progressive history of dysphagia. Clinical examination was notable for vesicular breathing and left basal crepitations. Neurological examination was unremarkable with no demonstrable fatiguability. ECG revealed normal sinus rhythm. Laboratory studies showed raised inflammatory markers and chest film revealed left basal consolidation in keeping with a community acquired pneumonia. A course of co-amoxiclav and clarithromycin were prescribed but due to persistent pyrexia gentamicin cover was added. Patchy consolidation was noted on CT chest, abdomen and pelvis. Whilst being treated for pneumonia, the patient developed worsening dysphagia to both solids and liquids. Patient denied odynophagia or vomiting; was seen by the speech and language therapist who deemed him to have unsafe swallowing and consequently was NG (Nasogastric) fed and treated for aspiration pneumonia with teicoplanin, metronidazole and temocillin with resolution after 12 days of treatment. Inpatient OGD (oesophago gastroduodenoscopy), MRI head studies, flexible nasoendoscopy and EMG (electromyography) studies were unremarkable. Videofluoroscopy study demonstrated anterior disc osteophyte bar at the level of C3/C4 causing extrinsic compression of the pharynx. Pharyngeal aspiration was also noted. Subsequent CT examination revealed significant anterior undulating ossification in relation to multiple cervical vertebral bodies with extrinsic compression of oesophagus from these ossific foci in keeping with a diagnosis of diffuse idiopathic skeletal hyperostosis by exclusion. Patient was referred for neurological intervention. C3-C5 anterior osteophyte removal was performed with resolution of dysphagia.

**Biography**

Dr. Puneet Pal Singh graduated from Charles University in Prague as a Medical Doctor. Previously completed B.S.c in Biochemistry and M.S.c in Molecular Medicine from Imperial College of Science and Technology in London. Later on he completed his core medical training at Lister Hospital in Stevenage, UK. Presently he has been working at Basildon Hospital as a Registrar in Renal Medicine.

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## **The single consolidated system for helping families with a hereditary pathology in the modern world: 50 years of experience**

**O Y Grechanina**

Kharkiv Interregional Specialized Medical Genetic Center – KNMU, Ukraine

**Introduction:** A powerful stream of new knowledge, evolutionary changes, loss of communication language between the genome and the environment – a short list of modern world features that entails comorbidity phenomenon. Kharkiv Interregional Specialized Medical Genetic Center – builds a single system of assistance for families with hereditary pathology, combining the efforts of scientists, doctors, nurses, technical personnel, regional authorities.

**Aim:** The aim of this studies the epidemiological, clinical, genetic and epigenetic characteristics of the population for the early and effective care of families.

**Materials & Methodology:** epidemiological, clinical-genetic, biochemical, cytogenetic, molecular-genetic.

Results: KISMGC-CR(O)D includes Medical Genetic Center, the Department of Medical Genetics and Ukrainian Institute of Clinical Genetics, KNMU, 160 employees (an average age is 30). Admitted in 2008 - 34699, 2017 - 37726 (for 10 years - 374929); primary - 2008 - 18018, 2017 - 11603 (for 10 years - 132309); established nosological forms in 2008 - 553, 2017 - 585 (for 10 years - 5622). A high incidence of mesodermal and ectodermal dysplasias, hamartoses, defects and diseases of the nervous system, hereditary connective tissue dysplasias, cardiovascular diseases, mitochondrial dysfunctions, hereditary metabolic diseases (metabolic disorders of methionine, heme, amino acids, purines, pyrimidines, organic acids, neurotransmitters, vitamins and cofactors). A unified system of assistance has been upbuilt: used "Harper principle" - the lifelong communication between a geneticist and a family; Principles Hardi I. - "doctor-nurse-family"; "1+5 Principles" - the diagnosis of expert team; collegiality principle - a council of experts, social workers, government officials; the principle of "there are no somebody else's children" have made it possible to involve representatives of the regional parliament and social services, parents associations in the fate of children.

**Conclusions:** The effectiveness system results are significant, which is reflected in early diagnosis, socially provided rehabilitation and treatment, the demand for the Center in Ukraine and other CIS countries.

### **Biography**

Olena Grechanina has completed her PhD at the age of 24 years from National Medical University (the Department of General Medicine) and postdoctoral studies from National Medical University (the Department of Obstetrics and Gynecology). She is the General Director of Kharkiv Interregional Specialized Medical Genetic Center – Center of Rare (Orphan) Diseases, the Member-Correspondent of National Academy of Medical Sciences, Professor of The Department of Medical Genetics, MD.

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**Loss of DNA mismatch repair signaling impairs the WNT: Bone morphogenetic protein (BMP) crosstalk and the colonic homeostasis****Katrine Norgaard**

University of Southern Denmark, Denmark

The mismatch repair (MMR) is an evolutionary conserved DNA repair pathway that repairs mutations generated during DNA replication but also maintains genome integrity. Inactivation of MMR has been recognized as a critical step in colorectal cancer initiation, however, little is known about its role in the regulation of the colonic homeostasis. The fine balance between proliferation, differentiation and apoptosis in the colonic epithelium is tightly controlled by the interplay between Wnt, Notch and bone morphogenetic protein (BMP) signaling. How these complex signaling networks coordinate the colonic homeostasis is still unclear, especially if cancer predisposing mutations are present. Loss of MMR function promotes activation of Wnt/ $\beta$ -catenin and increased proliferation in colon epithelial cells that renders them highly susceptible to transformation events. However, the mechanistic link between MMR and the enhanced Wnt still remains unclear. Using MMR deficient mouse model we show that loss of expression of Dickkopf1 (DKK1) leads to excessive levels of active  $\beta$ -catenin that promotes strong crypt progenitor-like phenotype, enhances proliferation and suppresses cell differentiation. Under these settings, the development and the function of the goblet cells are adversely affected. MMR deficient mice had fewer goblet cells, with enlarged mucins-loaded vesicles. Our study demonstrates that MMR inactivation impacts the WNT-BMP signaling crosstalk. The colon epithelial cells respond to the increased proliferation rate by boosting their apoptosis, mediated by BMP signaling. Although under these conditions the colonic homeostasis is disrupted the tissue size remains preserved.

**Biography**

Katrine Norgaard is a PhD student in Department of Biochemistry and Molecular Biology, University of Southern Denmark. Master's Thesis in Cancer Research with the title: The mechanistic role of S100A14 - a novel independent prognostic biomarker of the triple-negative breast cancer subtype. During her PhD, she did a collaboration with Dr. Lakshmi P. Kotra at University Health Network (UHN) at the University of Toronto (UofT). She went to Dr. Kotras laboratory for 3 weeks in April 2018 to May 2018.

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# Accepted Abstracts

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**Cysteinylated plasma albumin leads reduce antioxidant activity in nonalcoholic fatty liver disease (NAFLD)****Abhishak C Gupta**

Indian Institute of Technology, India

Oxidative stress is postulated to play an important role in liver disease progression. The degree of oxidized cysteine (Cys) 34 in human serum albumin (HSA) is correlated with oxidative stress related to pathological conditions and modulates its physiological functions. We analyzed purified plasma albumin from 46 biopsy-proven NAFLD patients and 21 matched healthy blood donors. The albumin modifications were analyzed by liquid chromatography coupled with electrospray ionization time-of-flight mass spectrometer (ESI-TOF/MS). Relative % abundance of unmodified (intact) and modified isoforms of albumin were compared between NAFLD and controls. *In vitro* ROS (reactive oxygen species) generation and antioxidant activity was measured by mean fluorescence (MFI) of dihydrorhodamine (DHR) by flow cytometry in presence of purified albumin of controls and NAFLD patients. Three most prominent isoforms of albumin were observed in the deconvoluted ESI spectrum with molecular masses of  $66,438 \pm 2.8$ ,  $66,559 \pm 4.8$  and  $66,603 \pm 6$  Da in controls and NAFLD patients represents intact, cysteinylated and glycated isoforms of albumin respectively. Unmodified albumin was the predominant peak with 100% relative abundance in healthy with calculated theoretical mass (66,438 Da, 542 aa). In contrast, the relative abundance of modified form with addition of +119 Da (cysteinylated) of albumin was predominant (100%) in NAFLD. Cysteinylated isoform of albumin (cys-Alb) was significantly higher in NAFLD patients than controls (100% v/s 52% -  $p < 0.01$ ). Circular dichroism (CD) spectrum showed clear structural alterations in purified albumin from NAFLD patients as compared to controls. Further, albumin antioxidant activity was measured by removal of ROS productions *in vitro*. Significant differences were observed in mean fluorescence intensity of DHR in presence of purified albumin from controls and patients ( $51.5 \pm 5.8\%$  vs  $60.3 \pm 13.8\%$ ,  $p < 0.001$ ) showed reduced antioxidant activity of albumin in NAFLD patients. Our results clearly showed that sustained oxidative stress and reduced antioxidant activity is reflected by high levels of cysteinylated albumin in NAFLD patients.

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**Intestinal lymphoma in young male with a hidden diffuse nodular lymphoid hyperplasia and selective Ig A deficiency****Amr Albitar**

department , cairo university, Egypt

This is a case of young male patient presented by chronic diarrhea which was attributed at first to intestinal lymphoma , but persistence of the symptoms pushed us for further evaluation to diagnose a rare hidden disease ( DNLH ) with selective IgA deficiency Diffuse nodular lymphoid hyperplasia (DNLH) is a benign rare condition of unknown etiology characterized microscopically by diffuse hyperplasia of the lymphoid follicles(<0.5 cm in diameter) of the gastrointestinal tract mucosa . It can involve any part of the GIT, mainly the small intestine, but it may also involve the colon and rarely the stomach. The disease is usually associated with immunodeficiency syndromes such as common variable immunodeficiency or selective IgA deficiency syndrome. Its prognosis is usually benign but it carries the risk of malignant transformation characteristically to lymphoma.

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**Healing After a Gastrectomy: Bridging the Body and Mind after Trauma with Psychosomatic Research****Amy Oestreicher**

Indian Institute of Technology, India

In 2005, A mild stomachache led to a total gastrectomy 48 hours later. In this presentation, I will be serving as my own case study. How does psychological trauma affect the body and how can it inform both medical and mental health professionals? At 17 I was sexually abused for eight months, causing severe stress, invoking the “freeze” response in trauma. Withholding this secret caused severe anxiety and panic attacks. Two weeks after I finally disclosed my secret, I developed a blood clot on the mesenteric artery leading to gangrene of the intestines. My stomach literally burst to the ceiling of the OR, both my lungs collapsed, I required 122 units of blood, and I was in a coma for months. 27 surgeries later, and six full years unable to eat or drink, I was reconstructed with the intestines that remained. How can stress lead to such physical traumas? How can the mind so dramatically affect the physical body? Psychological stress has a profound effect on the body and illness. When stress occurs, the hypothalamus secretes CRH that signals a reaction through a hormone signal pathway. ACTH is then released, but when this chain of events is turned on repeated in times of high stress like PTSD, the organs can never rest, inducing various physical illnesses and tissues damage. There is a large effect that this has on the stomach and intestines, causing various digestive problems. Mental disorders can also be caused when stress quickly activates our system, causing quick alarmed reactions that can lead health damage. As I experienced my abuse and relived it over and over again, the pathway repeated itself relentlessly, and therefore, digestive damage was eventually caused. Stress plays a significant role in affecting the sympathetic nervous system. The sympathetic nervous system affects digestion and cardiovascular function. It is in charge of the “fight or flight” response, it encourages the blood flow to the lungs, and increases heart rate. It also inhibits digestion by constriction all of the intestinal sphincters, and inhibition of peristalsis, which is the involuntary constriction and relaxation of the muscles of the intestine that push contents forward. The sympathetic nervous system is fast and short-term, but when stimulated repeatedly as in post-traumatic stress syndrome, can have a significant effect on the human body. In this way, stress can interact with the digestive system to increase the risk of ulcers and also affect the cardiovascular system. This is evident in individuals affected with PTSD from sexual abuse, as shown, for example, by the study performed by Norman and Means-Christensen (2006) on the relationship between psychological trauma and physical illness in primary care. There are many digestive diseases that can be caused by the body’s chronic stress response. Common digestive problems include heartburn/ Gastroesophageal reflux disease (GERD), inflammatory bowel diseases (IBD), and Irritable Bowel Syndrome (IBS). Symptoms may include bloating, diarrhea, gas, stomach pain, and stomach cramps. Treatment includes a combination of medication and lifestyle changes. Inflammatory bowel disease can cause symptoms such as abdominal cramps, bloody diarrhea, fever, and sometimes weight loss. Crohn’s disease is a chronic inflammatory disease of the digestive tract. Symptoms include abdominal pain and diarrhea, sometimes bloody, and weight loss. Crohn’s treatment consists of lifestyle changes, such as exercise and a healthy diet, as well as over-the-counter antidiuretics and prescription anti-inflammatory medication. Ulcerative colitis (UC) is a type of inflammatory bowel disease that causes sores in the colon. Symptoms include abdominal pain and diarrhea, sometimes bloody. Treatment for UC may be a combination of over-the-counter anti-diarrheic and prescription steroids or amino salicylates.

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**Antimicrobial activity of phenolic extract and essential oil of *Ceratonia siliqua L* (Caroub): Effect on digestive flora of malnourished children****Asmaa Belgharbi**

University of Mascara, Algeria

**A**gro-food and pharmaceutical industries for its richness in oligosaccharides, dietary fiber and polyphenols. These substances make carob a potential candidate for prebiotic status. The aim of this work is: firstly, to demonstrate the antimicrobial activity of polyphenol and essential oil of carob at different concentrations against eight strains belonging to the digestive flora of malnourished children, and secondly, to evaluate the effect of seed extract of *Ceratonia siliqua L* on the growth of probiotics and the tested strains of the digestive flora of malnourished children.

**Methods:** The effect of this plants was investigated through by physico-chemically and microbiological testes,

**Results:** The results revealed significant antimicrobial activity with an inhibition zone ranging from 5 to 16.5 mm and a MIC of 3.33% and 8.33% for the phenolic extract; and 5 to 19.6 mm and a MIC of 0.33% for the essential oil. Furthermore, the confrontation test results show that the two strains (*Lactobacillus fermentum* and *Lactobacillus plantarum*) present an antimicrobial activity against the tested strains. In addition, the inhibitory capacity of *L.plantarum* and *L.fermentum* is improved in the presence of 1% (w / v) of the carob seed extract.

**Conclusion:** Therefore, this study makes the carob-probiotic association the best candidate for the treatment of diarrhea in malnourished children.

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**Prevalence of occult HBV in chronic hepatitis C and cryptogenic hepatitis patients****Cakal B**

Department of Microbiology and Clinical Microbiology, Istanbul University, Turkey

Occult Hepatitis B Virus (HBV) infection (OBI) is considered as the possible phase of the HBV natural history but the molecular mechanisms and clinical impact and epidemiological aspect of OBI remains unclear. We investigated the prevalence of OBI and its clinical impact among patients with Hepatitis C virus (HCV) infection and with cryptogenic hepatitis. This study protocol was approved by the ethics committee of Istanbul University Istanbul School of Medicine (No: 2015/1519). This prospective cohort study included a total of 60 HBsAg-negative patients (27 patients with chronic HCV and 33 patients with cryptogenic hepatitis) were enrolled in the Department of Gastroenterology, Istanbul Faculty of Medicine. Liver tissue samples had been obtained by percutaneous needle liver biopsy and immediately frozen and stored at -80°C. Total nucleic acids were extracted from frozen liver biopsies using QIAamp DNA Mini Kit (Qiagen) according to the manufacturer's instructions. OBI was defined as HBV DNA positivity in 2 or more different viral genomic regions by nested polymerase chain reaction PCR using 4 sets of primers in preS-S (S), precore-core (C), Pol, and X viral regions of the HBV genome. Plasmid HBV DNA 4.1 kb and liver biopsy samples obtained from patients with chronic HBV infection (positive control) were used. Statistical analyses were evaluated using Mann-Whitney U test, Chi-square test and Kruskal Wallis tests. The baseline characteristics of patients are presented in figure 1. The prevalence of OBI was 25.9% (7/26) with 27.3% (9/33), 26.7% (16/60) in patients anti-HCV (+), cryptogenic hepatitis, and totally respectively. There wasn't any significant differences for prevalence of OBI between patients with chronic HCV infection and cryptogenic hepatitis (P=0.907). Patients with anti-HCV (+), OBI (+) were older compared with patients anti-HCV (+), OBI (-), (P: 0.033). As it is expected that cryptogenic hepatitis patients had higher serum alkaline phosphatase and gamma-glutamyltransferase level (P<0.05). Clinical significance and role of OBI in patients with chronic HCV infection is controversial. Accordingly, first results of the study with respect to prevalence of OBI is correlated with endemicity of Hepatitis B infection; moreover OBI can be associated with liver injury rather than chronic HCV infection. Therefore, it appears that host factors rather than viral factors are more responsible for OBI.

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**Clinical Use of Liu-POEM and NOTES****Bingrong Liu**

The GI Hospital of the First Affiliated Hospital of Zhengzhou University, Zhengzhou, China

**Introduction:** With the commencement of clinical use, endoscopy now covers a wide range of usage for clinical examination and minimally invasive surgery. It is a great trend and reality for such techniques to go further into a state of routine approaches in clinical practice. Now, I am willing to introduce the excellence of initiation and development of gastrointestinal endoscopy in three selected facets partly supported by our new development and techniques in our clinical practices and studies.

**Liu-POEM: Peroral endoscopic myotomy (POEM):** POEM was developed to provide a minimally invasive treatment for esophageal achalasia. From this technique, we developed a modified POEM approach and named as Liu-POEM, which is no need for creating a tunnel and hence shortens operation time and alleviates patient's pains remarkably. Now, Liu-POEM has been used by more and more endoscopists in the world. (1) Background. Esophageal achalasia is a primary motility disorder involving absence of esophageal peristalsis, failure of the lower esophageal sphincter (LES) to relax, and cardiac diastolic dysfunction. Peroral endoscopic myotomy (POEM) has emerged as an approach to treating esophageal achalasia. Although POEM is credited with high success rates in the treatment of achalasia, the submucosal tunneling is time consuming and commonly requires one-third to two-thirds of the total operation time. For the purpose of improving POEM procedure and shortening operation time, we modified the POEM procedure by combining the procedures of myotomy and tunnelization into an unit step. We named this approach as modified peroral endoscopic myotomy, the Liu-POEM. (2) Operational procedures. 1). Creation of a 1cm submucosal tunnel at the right or back esophageal wall approximately 8 cm proximal to the esophagogastric junction (EGJ).

**Pure NOTES:** (1) Introduction. Since Natural Orifice Transluminal Endoscopic Surgery (NOTES) was first described by Anthony Kalloo, it has attracted tremendous interest from surgeons and gastroenterologists all around the world. Natural orifice transluminal endoscopic surgery (NOTES) uses transvisceral access to the peritoneal cavity through mouth, rectal, colon, and vagina ect.. Now, a number of endoscopic approaches can be performed by NOTES and Pure NOTES. We have performed A series of operations by Pure NOTES, and the most successful one was transrectal gallbladder preserving cholecystolithotomy (TRGPC) and transrectal gallbladder preserving polypectomy (TRGPP) by pure NOTES, which was the first such case series in human beings. (2). Operational procedures. The key steps for TRGPC and TRGPP are as below. Ultrasonic examination was required for disease confirmation and assessment prior to operation. Under general anesthesia after routine preparations, the patient was placed in a left recumbent position prior to the initiation of the procedure. A colonoscope was introduced into the transverse colon and the colonic lumen was cleaned with normal saline through the endoscope and then the endoscope was withdrawn from the colon. A detachable prototype balloon which was developed by our team was placed into the transverse colon by a biopsy forceps and was inflated to block the colonic lumen with a suitable pressure inside the balloon (Fig. 1-A). The distal colon cavity was irrigated with normal saline solution and disinfected with a 0.1% povidone-iodine solution. A disinfected endoscope with a transparent cap mounted at the tip of it was used. To ensure a smooth advance of the endoscope and the accuracy in spatial identification in the peritoneal cavity, the Trendelenburg's position is suggested. After submucosal saline injections, a 2 cm incision was made on the anterior rectal wall 15-20 cm from the anus by hook and IT knives. The endoscope was advanced into the pelvic cavity, and an incision was made on the peritoneum by a hook knife to enable the flexible endoscope pass through into the peritoneal cavity, and then the endoscope was advanced upward into the upper peritoneal cavity with liver and gallbladder identified.

**Conclusion:** In conclusion, minimally invasive surgery is now playing an important role in the fields of surgery and gastroenterology. We believe, along with the innovations in new instruments and techniques, as well as our ceaseless explorations of new things, more and more new approaches and procedures of gastroenterological endoscopy will come up and be widely used in various clinical practices.

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**AKT2 expression and 2 years overall survivor in colorectal cancer: A retrospective cohort study****Caroline Saad Vargas**

State University of Ponta Grossa, Brazil

**Statement of the Problem:** Colorectal cancer(CRC) is one of the most important cancers. There is a great effort to understand the molecular involvement to predict and counterbalance the odds of metastatic disease. The proto-oncogene serine/threonine kinase(AKT2) stood out among the studies. The role of AKT isoforms as a whole is already linked to cell proliferation, glucose uptake, metabolism, angiogenesis and radiation and drug response. The researches with AKT2 have linked its expression with advanced tumors and metastatic CRC. However, there is a lack of studies comparing the AKT2 expression and Overall Survivor(OS) in CRC patients yet. This study intends to evaluate the relation between AKT2 expression and 2 years OS among patients with CRC.

**Methods:** 140 patients with CRC diagnosed between 2010 and 2015 in a city in Paraná state, Brazil were enrolled for this study. Primary tumor samples were obtained and analyzed through immunohistochemistry for expression of AKT2. The clinical data was retrospective collected from medical records. Shapiro-Wilk test found a non-Gaussian distribution, hence Mann-Whitney test was conducted. The authors defined significant a  $P > 0.05$ .

**Findings:** 96 patients (68.6%) had a positive 2 years OS. Forty-four(31.4%) had a confirmation of death in the period. The survivors group had an AKT2 expression varying between 0.6 and 60.3, a 95% confidence interval(CI) of 12.2 and 20.8 and a median of 17.2. The death group positivity was between 0.9 and 58.9, the 95% CI discreetly higher, between 14.8 and 29.8 and a 21.8 median.

**Conclusion:** The 95% CI and medians obtained were higher among the patients with the death outcome in 2 years. However, the statistical analysis found no significance in AKT2 expression among the groups( $P=0.2378$ ). Therefore, the results suggest that there is no correlation between the marker expression and 2 years OS in CRC patients. However, it is important to continue the researches with the AKT2 to check for different results when comparing specific groups of patients.

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**Post cholecystectomy biliary leakage; overview causes and management****Khaled Mahran**

Minia University, Minia, Egypt

**B**ile leakage is an infrequent but serious complication after cholecystectomy either laparoscopic or open. It carries high morbidity and mortality rates, posing impaired quality of life along with substantial financial burdens to patients and the society in general. We shall revise the causes underlying this challenging problem, how to avoid injuries and common methods in treatment. Common causes of post cholecystectomy bile leakage are; Insecure closure of the CD, Disrupted closure of the CD, Iatrogenic bile Duct Injury. 6 main strategies have been standardized to avoid biliary injury during cholecystectomy, 1. Infundibular technique, 2. Dome-down technique, 3. Critical view of safety approach, 4. Routine intra-operative cholangiography (I.O.C.), 5. Recognize when the dissection is approaching a zone of significant risk. 6. Get help from another surgeon when the dissection or conditions are difficult. We aim to share our results of treating 50 consecutive cases with post-cholecystectomy biliary leakage in a tertiary care hospital in the last 4 years.

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**Fasttrack program in liver resection: A prisma-compliant systematic review and meta-analysis**

**Emad Ali**

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Sohag University, Egypt

**Background:** FT program (FT) is a multimodal approach used to enhance postoperative rehabilitation and accelerate recovery. It was 1st described in open heart surgery, then modified and applied successfully in colorectal surgery. FT program was described in liver resection for the 1st time in 2008. Although the program has become widely accepted, it has not yet been considered the standard of care in liver surgery.

**Objectives:** we performed this systematic review and meta analysis to evaluate the impact of using the FT program compared to the traditional care (TC), on the main clinical and surgical outcomes for patients who underwent elective liver resection.

**Methods:** PubMed/Medline, Scopus, and Cochran databases were searched to identify eligible articles that compared FT with TC in elective liver resection to be included in this study. Subgroup meta-analysis between laparoscopic and open surgical approaches to liver resection was also conducted. Quality assessment was performed for all the included studies. Odds ratios (ORs) and mean differences (MDs) were considered as a summary measure of evaluating the association in this meta-analysis for dichotomous and continuous data, respectively. A 95% confidence interval (CI) was reported for both measures. I2 was used to assess the heterogeneity across studies.

**Results:** From 2008 to 2015, 3 randomized controlled trials (RCTs) and 5 cohort studies were identified, including 394 and 416 patients in the FT and TC groups, respectively. The length of hospital stay (LoS) was markedly shortened in both the open and laparoscopic approaches within the FT program ( $P < 0.00001$ ). The reduced LoS was accompanied by accelerated functional recovery ( $P = 0.0008$ ) and decreased hospital costs, with no increase in readmission, morbidity, or mortality rates. Moreover, significant results were found within the FT group such as reduced operative time ( $P = 0.03$ ), lower intensive care unit admission rate ( $P < 0.00001$ ), early bowel opening ( $P = 0.00001$ ), and rapid normal diet restoration ( $P = 0.00001$ ).

**Conclusion:** FT program is safe, feasible, and can be applied successfully in liver resection. Future RCTs on controversial issues such as multimodal analgesia and adherence rate are needed. Specific FT guidelines should be developed for liver resection.

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**Machine learning modeling applied to identification of liver fibrosis' degree based on combination of non-invasive methods****Leandro Augusto Ferreira**  
Brazil

About 150 million people are carriers of the hepatitis C virus (HCV) in the world. About 25% are at risk of developing cirrhosis; however, with HCV they are detected with some degree of liver fibrosis. To obtain the degree of liver fibrosis with has been used the biopsy as gold standard. Although there are non-invasive methods such as the transient elastography-FibroScan®, acoustic radiation force impulse (ARFI), enhanced liver fibrosis (ELF), the aspartate aminotransferase-to-platelet ratio index (APRI), and the FIB-4 index, they can be influenced by some factors such as body weight and therefore disrupt the results. Here, we intend to present some models of machine learning that combine results through these methods (FibroScan®, ARFI, ELF, APRI and FIB-4) and other anthropometric variables to improve the accuracy of their particles in relation to a liver biopsy. The data is from patients with hepatitis C from the clinical division of the Department of Gastroenterology, Hospital das Clínicas, Faculty of Medicine, University of Sao Paulo, in Sao Paulo, Brazil.

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**Successful Therapy of Severe Pseudomembranous Colitis using Combination of Oral Vancomycin and Intracolonic Vancomycin****H S Bozkurt**

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**Background:** *Clostridium difficile* is a major cause of intestinal infection and diarrhoea in individuals following antibiotic treatment. Disease associated with *C. difficile* infection (CDI) ranges from mild diarrhoea to pseudomembranous colitis (PMC). Severe CDI unresponsive to intravenous (IV) metronidazole therapy requires more aggressive medical management and possible surgical intervention. In the case of ileus, intracolonic and oral vancomycin presented a promising alternative method for administering the antibiotic.

**Methods:** We reported a 5 year old boy had non bloody diarrhea with unresponding metronidazole treatment for 10 days. The stool CDI cytotoxin assay was negative. The patient had no antibiotic exposure in the six weeks prior to diarrhoea. Abdominal pain, ileus, fever, leukocytosis were occurred (Figure-1). Decompressive flexible sigmoidoscopy revealed inflamed mucosa and yellow plaque like lesions in sigmoid and descending colon (Figure-2). Stool cultures and analysis for rotavirus, staphylococcus, shigella, salmonella and candida were negative.

**Results:** Intraluminal vancomycin (1 gr in 250 ml serum physiologic) was performed during flexible sigmoidoscopy. Oral vancomycin was started (40 mg/kg) four times a day. The patient's condition improved after treatment and three days later soft diet started (Figure-3)

**Conclusion:** Pediatric CDI cases found 87% reported only diarrhea, 9% had severe CDI and 4% had severe CDI with complications (Toxic megacolon, ileus, intestinal perforation). In the case of ileus, intracolonic and oral vancomycin presented a promising alternative method for administering the antibiotic in clinical suspect of CDI associated PMC.

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**Loss of DNA mismatch repair signaling impairs the Wnt: bone morphogenetic protein (BMP) crosstalk and the colonic homeostasis****Katrine Norgaard**

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The mismatch repair (MMR) is an evolutionary conserved DNA repair pathway that repairs mutations generated during DNA replication but also maintains genome integrity. Inactivation of MMR has been recognized as a critical step in colorectal cancer initiation, however, little is known about its role in the regulation of the colonic homeostasis. The fine balance between proliferation, differentiation and apoptosis in the colonic epithelium is tightly controlled by the interplay between Wnt, Notch and bone morphogenetic protein (BMP) signaling. How these complex signaling networks coordinate the colonic homeostasis is still unclear, especially if cancer predisposing mutations are present. Loss of MMR function promotes activation of Wnt/ $\beta$ -catenin and increased proliferation in colon epithelial cells that renders them highly susceptible to transformation events. However, the mechanistic link between MMR and the enhanced Wnt still remains unclear. Using MMR deficient mouse model we show that loss of expression of Dickkopf1 (DKK1) leads to excessive levels of active  $\beta$ -catenin that promotes strong crypt progenitor-like phenotype, enhances proliferation and suppresses cell differentiation. Under these settings, the development and the function of the goblet cells are adversely affected. MMR deficient mice had fewer goblet cells, with enlarged mucins-loaded vesicles. Our study demonstrates that MMR inactivation impacts the WNT-BMP signaling crosstalk. The colon epithelial cells respond to the increased proliferation rate by boosting their apoptosis, mediated by BMP signaling. Although under these conditions the colonic homeostasis is disrupted the tissue size remains preserved. Katrine Norgaard is a PhD student in Department of Biochemistry and Molecular Biology, University of Southern Denmark. Master's Thesis in Cancer Research with the title: The mechanistic role of S100A14 - a novel independent prognostic biomarker of the triple-negative breast cancer subtype. During her PhD, she did a collaboration with Dr. Lakshmi P. Kotra at University Health Network (UHN) at the University of Toronto (UofT). She went to Dr. Kotras laboratory for 3 weeks in April 2018 to May 2018.

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**Quantitative analysis of microcirculation changes of hepatic ischemia reperfusion injury in rabbits with liver cirrhosis by contrast-enhanced ultrasound****Haiyuan Li**

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**Objective:** To investigate hepatic microcirculation perfusion before and after hepatic ischemia reperfusion injury (IRI) in rabbits with liver cirrhosis by the quantitative analysis of contrast-enhanced ultrasound (CEUS).

**Methods:** Forty-five New Zealand rabbits with liver cirrhosis were randomly divided into sham operation group (group A) and ischemia reperfusion injury group (group B and group C). CEUS examination, aspartate aminotransferase (AST), alanine aminotransferase (ALT) and histopathological examination were performed before and after reperfusion of 0h, 1h, 6h, 24h and 48h, respectively. SonoLiver software was used to perform the quantitative analysis of CEUS. And the time intensity curve (TIC) was used to measure peak intensity (IMAX), rise time (RT), peak time (TTP), respectively.

**Results:** There were no significant differences in TIC parameters (IMAX, RT and TTP) in the group A at each time point ( $P > 0.05$ ). IMAX in groups B and C at 0h, 1h, 6h, 24h, 48h of reperfusion had no significant change compared with the blocking ( $P > 0.05$ ). In groups B and C, RT, TTP increased significantly at 0h, 1h, 6h of reperfusion compared with before reperfusion ( $P < 0.05$ ), however, the parameters of RT and TTP had no changes at 24h of reperfusion had no obvious change than before reperfusion, no significant difference ( $P > 0.05$ ), 48h of reperfusion compared with before reperfusion decreased, with statistical difference ( $P < 0.05$ ). Pearson correlation analysis showed that RT and TTP were positively correlated with ALT and AST ( $P < 0.001$ ). In groups B and C, the pathological changes at 0h of reperfusion showed edema of liver cells, liver sinusoidal space narrowing, gathered a large number of red blood cells in liver sinusoids and central vein blocking lumen, micro thrombosis. With the prolongation of reperfusion, the pathology revealed that red blood cell aggregation in hepatic sinusoids and the portal area, caused by occlusion of the lumen of the portal area, microcirculation, there is a small amount of neutrophils at 1h of reperfusion. The pathological analysis revealed that edema was found in liver cells increases in ballooning, and saw extensive infiltration of neutrophils when at 6h of reperfusion. Hepatocyte atrophy, necrosis and hepatic sinus collapse were found at 24h of reperfusion.

**Conclusion:** The quantitative analysis of contrast-enhanced ultrasound is a noninvasive, objective and accurate method to evaluate the changes of hepatic IRI microcirculation.

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**The impact of Toll-like receptor 9 polymorphisms on Hepatitis B virus clearance****Hajar Chihab**

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**Statement of the Problem:** Hepatitis B infection remains a serious public health problem in the world. In connection with poorly defined defects affecting their immune competence, patients chronically infected with hepatitis B virus (HBV) cannot clear the virus. The outcome of infection depends primarily on the interaction between the virus and selected effectors of host immunity. Toll-like receptor 9 (TLR9) plays a crucial role in innate immunity against viral infections through detection of intra-cytoplasmic dsDNA. Defects in this system may result, therefore, in attenuated responses against HBV. Recent research has focused on the possibility of targeting the defects in TLR9 pathway as a novel approach for anti-HBV treatment. Our study aimed to assess the impact of both TLR9 rs5743836 and rs187084 polymorphisms on spontaneous HBV clearance in Moroccan patients.

**Material/Methods:** In this study, 239 chronic HBV (CHB) patients and 134 spontaneously resolved HBV (SRB) individuals were recruited and genotyped using a Taqman allelic discrimination assay.

**Results:** Remarkably, we observed dosage effect of both SNPs on viral loads. At rs5743836, AA, AG and GG genotypes were significantly associated with a progressive increase of circulating HBV DNA whereas the inverse phenomenon was noticed with AA, AG and GG at rs187084. By contrast, there was no consistent association between TLR9 polymorphisms and spontaneous clearance or persistence of HBV.

**Conclusion:** To conclude, of Moroccan patients, no significant association of rs5743836 and rs187084 TLR9 polymorphisms was observed with HBV natural clearance. Further studies on larger populations should shed light on the modulating effect of TLR9 polymorphisms on HBV loads that remain a viral factor of paramount importance to predict HCC development.

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**Adjuvant chemotherapy after neoadjuvant chemoradiation in esophageal cancer: A propensity score matched analysis****Juan F Ricardo**

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**Purpose:** Patients with locally advanced esophageal cancer (EC) have poor long-term survival despite improvements in multi-modality care. Neoadjuvant chemoradiation (NCR) followed by surgical resection remains standard of care. However, the utilization of adjuvant therapy continues to be debated. Our study reviews the effectiveness of adjuvant therapy after neoadjuvant therapy in resected EC.

**Methods:** Utilizing the National Cancer Database (NCDB) we identified patients with esophageal cancer who underwent NCR followed by esophagectomy and compared patients who received adjuvant therapy to those who did not. Propensity score matched (PSM) analysis was performed. Baseline univariate comparisons of patient characteristics were made for continuous variables using both the Mann-Whitney U and Kruskal Wallis tests as appropriate. Pearson's Chi-square test was used to compare categorical variables. Unadjusted survival analyses were performed using the Kaplan-Meier method comparing survival curves with the log-rank test. All statistical tests were two-sided and  $\alpha$  (type I) error  $<0.05$  was considered statistically significant.

**Results:** We identified 1,816 patients with EC: adenocarcinoma  $n=1,664$  (91.6%) and squamous cell carcinoma  $n=134$  (7.4%). There were 1,596 (87.9%) males and 220 (12.1%) females. Location of the tumor was 121 (6.7%) middle, 1,267 (7.0%) lower, and 371 (20.4%) at the gastroesophageal junction. Both the adjuvant therapy group and the no adjuvant group had 908 patients after PSM with a median age of 60 years (26-83). Univariate analysis revealed age, R0 resection, T-stage, N-stage, grade,  $<10$  lymph nodes removed and adjuvant therapy were predictors of survival. All patients who received adjuvant therapy revealed greater median and overall survival, 36.4 months and 34.5% versus 30.9 months and 33.2%,  $p=0.02$ . Node negative patients did not show a significance in survival with adjuvant therapy 57.2 and 55.4 months respectively,  $p=0.4$ . However node positive patients demonstrated improved median and overall survival with adjuvant therapy 31.1 months and 27% respectively compared to the no adjuvant therapy group 25.7 months and 24.3%,  $p=0.03$ . Multivariate analysis revealed LN+, T-stage ( $p=0.002$ ), R0 resection ( $p<0.001$ ), and number of lymph nodes removed ( $p<0.001$ ) were predictors of survival.

**Conclusion:** Adjuvant therapy in all EC patients after neoadjuvant therapy does show improved median and overall survival. Similar to other studies, R0 resection and T-stage continue to influence survival. However, node negative EC patients were found to have no survival benefit with the addition of adjuvant therapy.

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***In vivo* cellular and molecular gastroprotective mechanisms of chrysin: Emphasis on oxidative stress, inflammation and angiogenesis****Mina Y George**

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Gastric ulceration is one of the major gastrointestinal disorders affecting people worldwide. Despite medical advances, management of gastric ulcer and its complications remains a challenge facing medicine nowadays. In addition, currently available medicines exhibit limited efficacy and several side effects. Hence, the potential protective effects of chrysin -naturally occurring flavonoid- were tested against indomethacin-induced gastric ulcer model in rats. In a preliminary study, chrysin was administered to spargue-Dawley rats (200-220 g) at three different doses; 25, 50 and 100 mg/kg, single oral dose (S.O.D) compared to omeprazole given at a dose of 30 mg/kg, S.O.D. Indomethacin was administered at a dose of 48 mg/kg, S.O.D. Chrysin in both doses; 50 and 100 mg/kg were effective in promoting mucus secretion and preventing the rise in ulcer and lesion indices, acid production and histologic changes induced by indomethacin. During investigation of the possible underlying mechanisms, chrysin pretreatment significantly attenuated indomethacin-induced oxidative injury proved by its effects on catalase, reduced glutathione and lipid peroxidation levels. In addition, chrysin reduced inflammatory response caused by indomethacin owing to its effects on nuclear factor-kappa B (NF- $\kappa$ B), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and interleukin-1 $\beta$  (IL-1 $\beta$ ). Moreover, chrysin activated peroxisome proliferator activated receptor- (PPAR- $\gamma$ ) leading to a phenotypic switch from pro-inflammatory M1 macrophages to the anti-inflammatory M2 macrophages evidenced by the upregulated mRNA expression levels of PPAR- $\gamma$  and M2 marker genes (Arg-1 and CD206) and downregulation of M1 marker genes (IL-6 and CCL3). Furthermore, chrysin initiated angiogenesis via increasing expression of vascular endothelial growth factor (VEGF), basic fibroblast growth factor (bFGF) and cluster of differentiation-31 (CD31) resulting in tissue repair. Collectively, these findings indicate that chrysin possesses a potential protective effect against indomethacin-induced gastric ulcer via suppressing oxidative stress, inflammation and initiating angiogenesis.

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**Neutrophil to lymphocyte ratio: Predictive marker for assessing the severity of ulcerative colitis?**

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University of Oradea, Romania

**Introduction:** Several markers have been proposed along the time to assess the severity and the progression of ulcerative colitis (UC) but they are expensive and some of them not specific for intestinal inflammation. Thus, new simpler and cheaper tools are required to evaluate the severity of the disease. The aim of our study was to evaluate the contribution of the neutrophil/lymphocyte ratio (NLR) for assessing the severity of UC.

**Patients and Methods:** We performed a retrospective study over a 5 year period (January 2012- December 2016), including 68 UC patients, from ambulatory or hospitalized, divided into two groups: the first group of 23 patients (33.8%) with active disease and the second group of 45 patients (66.2%) of inactive UC. Disease activity was assessed using the Mayo score and the data was statistically analyzed using SPSS20.

**Results:** Mean age of patients was 39 years (19-78 yrs). Female-male ratio was 0.78 and the average disease duration was 8 years. Seven cases (10.3%) were diagnosed with pancolitis. Of the 23 patients with active UC, 14 patients had mild to moderate disease and 9 patients had a severe form. In patients with inactive disease, average NLR was 2.36 (0.79 to 10.84), while in patients with active UC average NLR was 4.28 (2.18 to 11.59) with a significant difference ( $p < 0.01$ ). No significant NLR variations were observed between the patients with mild to moderate disease and those with severe forms.

**Conclusion:** In our study, NLR was significantly higher in the cases of active UC. This can be a useful marker in the assessing and follow up of the UC activity, without giving information on the disease severity.

**Key words:** ulcerative colitis, neutrophils/lymhocytes

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**Study of histone 3 acetylation in patients with Crohn's disease****Ovidiu Fratila**

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There was very little study on understanding fibrotic intestinal pathology in patients with Crohn's disease since most studies focused mainly on inflammatory pathway. In murine colitis study, it had been showed that the elevation of transforming growth factor (TGF $\beta$ ) can lead to increased activation of fibroblast and increased secretion of extracellular matrix protein (ECM). Epigenetic mechanisms involving histone modification is proven to play an important role in intestinal inflammation. Increased in histone deacetylase activity (HDAC) was found in many inflammatory conditions such as arthritis and cancer. There are numbers of HDACis (histone deacetylase inhibitors), which result in acetylation of cell, which is essential for gene expression. Few recent studies showed that in murine model of inflammatory colitis, HDAC inhibitor can reduce the overall inflammatory symptoms. The data is lacking in human and hence, this study was performed based on the hypothesis that histone acetylation will be low in the mucosa overlying a stricture area of CD patients compared to a non-stricture area in the same patients. The first aim was to measure and compare the level of histone acetylation in the stricture mucosal area of CD patients compared to a non-stricture mucosal area. The second aim was to see whether or not HDACi can reduce the expression of collagen gene of mRNA in the intestinal fibroblast. Hypothesis is that histone acetylation will be low in the mucosa overlying a stricture area of CD patients compared to a non-stricture area in the same patients. The results supported the hypothesis and were consistent with previous experiment done in murine studies. We are getting closer to achieve our goal of understanding histone acetylation in the CD bowel and this could lead potentially to novel therapeutic strategies for IBD.

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**To study the efficacy of Penicillamine followed by Zinc in treating symptomatic predominantly hepatic WD.**

**Piyush Gupta**

Christian Medical College Hospital, India

**Background:** Experience with Zinc in treating symptomatic hepatic Wilson's disease (WD) is limited.

**Methods:** We studied symptomatic WD patients in whom Penicillamine was changed to Zinc sulfate either due to financial constraints (in 25 patients) or due to adverse effects of Penicillamine (in 2). Disease severity scores (Child's, MELD, Nazer's and New Wilson Index score) and 24-hour Urinary copper were calculated at 3 time points – baseline at diagnosis, at transition from Penicillamine to Zinc and at end of follow-up.

**Results:** 27 patients were studied, 18 had hepatic WD, 8 had neurological and hepatic WD and 1 had hepatic and neuropsychiatric manifestations. Child's grade was A in 6 patients, B in 3 and C in 15. Duration of Initial Penicillamine chelation therapy was 132 weeks (range: 2-320), and of subsequent Zinc therapy was 366 weeks (range 35-728). Three patients died at 284, 112 and 437 weeks. No patient underwent liver transplantation. There was significant improvement in liver function tests and disease severity scores (Nazer's score, New Wilson index score, Child's and MELD score) at transition from Penicillamine to Zinc compared to baseline which was maintained till end of study period. Nine patients had received Penicillamine for less than 1 year (35 weeks; range: 2-52) and 15 patients had decompensated cirrhosis with Child Grade-C at presentation who improved until end of follow-up.

**Conclusions:** Penicillamine followed by Zinc maybe a safe and effective treatment in resource constrained setting for symptomatic (predominantly) hepatic WD patients with all grades of baseline disease severity. Our data also shows that patients with decompensated cirrhosis due to wilson's disease can be managed with medical treatment avoiding liver transplantation.

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**Outcomes of Locoregional Therapy for Metastatic Gastric Cancer; A National Cancer Database Analysis****Ravi Shridhar**

Jamie Huston, Kenneth L Meredith

**Background:** Patients with metastatic gastric cancer have poor survival. The purpose of this study was to compare outcomes of metastatic gastric cancer patients with or without surgery and radiation therapy (RT).

**Methods:** The National Cancer Database (NCDB) was accessed to identify patients with stage IV gastric cancer between 2004 and 2013 and stratified by surgery. Propensity score matching was performed against age, metastatic site, radiation, and signet ring histology. Overall survival (OS) analysis was determined by Kaplan-Meier and log-rank analysis. Multivariate analysis (MVA) was analyzed by the Cox proportional hazard ratio model.

**Results:** A total of 1808 patients were identified. Surgery was associated with an OS benefit. Median and 5-year OS for surgery and no surgery was 16 months and 16% and 10 months and 2%, respectively ( $p < 0.001$ ). Median and 5 year OS for patients treated with surgery and RT was 22.4 months and 26%. Median and 5 year OS for surgery patients treated with or without preoperative RT was 27.2 months and 28% and 15.2 months and 12%, respectively ( $p < 0.001$ ). There was no OS benefit with postoperative RT. MVA for all patients revealed that surgery and tumor location were associated with decreased mortality while peritoneal metastases were associated with increased mortality. In surgical patients, MVA showed that RT, partial esophagectomy, and tumor location were associated with decreased mortality, while positive margins, signet ring histology, and peritoneal metastases were associated with increased mortality. In nonsurgical patients, only carcinomatosis was prognostic on MVA.

**Conclusions:** Surgery and radiation are associated with increased survival in a subset of patients with metastatic gastric cancer. Prospective trials will be needed to address the role and sequence of surgery and radiation in metastatic gastric cancer.

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**Solo single-incision pylorus-preserving gastrectomy with overlap gastro-gastrostomy for early gastric cancer****So Hyun Kang**

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**Introduction:** With the development of better surgical devices, there are several reports of successful multiport laparoscopic pylorus-preserving gastrectomy (PPG). However, due to the technical difficulties in lymph node (LN) 6 dissection with preservation of the infrapyloric vessels and intracorporeal gastro-gastrostomy (G-Gstomy), it has been challenging to apply single-incision laparoscopic surgery to PPG. In this report, the authors report their initial experience with solo single-incision pylorus-preserving gastrectomy (SIPPG).

**Method:** Six patients underwent solo SIPGG in a single center by a single surgeon. A scope holder was used instead of an assistant, and energy device with dual ultrasonic and bipolar actions was used for LN dissection (LND). The Intracorporeal triangular anastomotic technique (INTACT) and the novel overlap G-Gstomy technique was used for anastomosis.

**Results:** The mean operation time (range) was 136.7 (100 – 180) minutes, and there was no postoperative complication – including delayed gastric emptying – within 30 days of the operation. The mean number of retrieved lymph nodes (range) was 51.8 (39 – 81). No patients had wound complications, and the median discharge day (range) was 3.5 (3 – 7) days postoperatively.

**Conclusion:** Through the use of scope holders for stable vision, and the fine LND mode of the energy device, the challenges regarding LND in SIPPG can be overcome. The INTACT method was first applied to the G-Gstomy, but due to its demand for high surgical skills, the overlap method was used for G-Gstomy. Solo SIPPG with overlap G-Gstomy is safe and feasible with great cosmetic results and fast patient recovery.

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**Bleeding after gastric bypass surgery. The possibility of using balloon enteroscopy in the postoperative period****Solovyeva M O**

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One of the possible complications after bariatric surgery is bleeding. In the majority of cases bleeding in the later stages of the postoperative period are intraluminal, with clinical manifestations of high gastrointestinal bleeding. Among all bariatric procedures, the development of this complication is more common after Roux-en-Y gastric bypass. Upper endoscopy is the diagnostic and treatment method of choice, but only bleeding in the gastric pouch or in the gastroenteroanastomosis can be stopped in this way. If localization of bleeding is in the remnant stomach or duodenum and small intestine, it is necessary to use more advanced endoscopic procedures. Male patient, 44 years old with BMI 43 kg/m<sup>2</sup> and comorbidities (Diabetes Mellitus type 2, decompensated in patient receiving hypoglycemic drugs), was undergone laparoscopic Roux-en-Y gastric bypass in October 2014. During the year %EWL was 81%, there was compensation of diabetes without medication (HbA1c 4,9%). In January 2015 he was hospitalized in a clinic in St. Petersburg with signs of upper gastrointestinal bleeding. He has a history of melena during the last 5 days with an episode of syncope in the hospital day. Hemoglobin was 88 g/l. Upper endoscopy and colonoscopy were performed without identification of source of bleeding. Drug therapy was conducted. A few days later the patient was transferred to our hospital with no signs of ongoing bleeding. Balloon-assisted enteroscopy was performed. Duodenal ulcer with no signs of bleeding was visualized. Endoscopic hemostasis wasn't needed. The patient was discharged the next day. Course of anti-ulcer therapy performed. During follow-up there was no recurrence of bleeding.

Conclusions. The use of a balloon-assisted enteroscopy is possible to identify the unidentified sources of bleeding by upper endoscopy. This method allows viewing distal small intestine and all parts excluded of gastrointestinal digestion. It also allows performing therapeutic measures if necessary.

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**The prognostic value of 24-hour urine sodium (24-hr una) in cirrhotic patients with ascites on diuretics**

**Sukanta Chandra Das**

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**Background:** Ascites due to cirrhosis can be mobilized with sodium restriction (88 mEq/day) and diuretics. Patients with non-responder to diuretics may have pre-hepatorenal syndrome and a poor prognosis. Diuretic response can be monitored by measuring 24-hr UNa which can also be a prognostic marker. The aim of this study was to evaluate the value of 24-hr UNa as a prognostic marker in cirrhotic patient with ascites on diuretics.

**Methods:** This cross-sectional study included 100 patients of cirrhosis on diuretics. 24-hour urine was collected properly and tested accordingly. At the same time liver and renal function tests were done to calculate MELD and CTP score.

**Results:** Out of 100, 48 (48%) subjects had excreted  $\geq 78$  mmol/d of sodium and 52 (52%) subjects excreted  $< 78$  mmol/d. 64 subjects belong to CTPS "B" and 36 in CTPS "C" group. Majority of the cases (81.3%) of CTPS "B" group had excreted  $\geq 78$  mmol sodium/day and 51.9% patients of the CTPS "C" group had 24hr urinary sodium  $< 78$  mmol/day. In patients who excreted  $< 78$  mmol/day MELD score was  $17.71 \pm 4.51$  and it was  $14.60 \pm 2.98$  in patients who excreted  $\geq 78$  mmol/day of urinary sodium. These differences were statistically significant ( $p < 0.001$ ).

**Conclusion:** This study showed that advanced cirrhosis have relatively lower natriuresis in response to diuretics. So, 24-hr UNa can be considered as a prognostic indicator. But multicentered studies are needed for further recommendation.

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**Obesity and life-style limitations****Vaclav Bunc**

Charles University, Czech Republic

Obesity is up to about 5% of cases the problem of education and not medicine. For an effective intervention is necessary in the first place timely identify its initial stages and simultaneously identify the variables that can affect by the external interventions. The current epidemic of obesity is a problem not only public health, but each individual. The basic tool for successful intervention is to change the lifestyle from sedentary to active of intervened individuals. The first step is early diagnostics and then selecting individual approach that respects the health, previous experience physical, physical fitness, time and economic conditions and the relationship with its surroundings to influence obesity of the subject. Physical activity is now admitted as being an integral element of adult obesity treatment, but it is not clear which intervention is the most efficient. Physical activity is an extremely complex behavior that requires active involvement of the subjects and his nearly environment as well. It is influenced by personal, family and environmental factors and each of these elements can be a potential barrier in preventing active participation of the subject, therefore compromising a successful implementation of a program. These limitations are obvious for moderate-to-vigorous physical activity which is usually recommended for treating obese persons. The study provides an overview of modifiable physical activities – mainly based on walking with energy content from 950 kcal/week for seniors to 2000 kcal/week in children, which can be used for reduction of body fat about 15%, increase in FFM about 10%, increase of physical fitness about 17% independently on gender and body mass. This may significantly influence the life style of overweight or obese subjects – mainly their quality of life, predispositions for leisure and work activities and well-being.

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13<sup>th</sup> International Conference on**Pediatric Gastroenterology Hepatology & Nutrition**

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3<sup>rd</sup> International Conference on**Digestive and Metabolic Diseases**

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**Celiac sprue presenting as exfoliative cheilitis, an immune mediated process: A Case Report****Wudassie melak**

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**Background:** celiac sprue an immune-mediated inflammation of the small intestine caused by sensitivity to dietary gluten and related proteins in genetically sensitive individuals. In adults the presentation can be challenging for the physician. A patient presented with an erythematous tongue and lip which was painless and constantly exfoliating.

**Case presentation:** A 30-years-old male from Bahirdar, Ethiopia presented with an erythematous tongue and upper lip which was exfoliating for more than 16 years. It was extending later to the lower lip upto the extent of obscuring the vermilion border. It started on the upper lip as a small reddish triangular and erythematous lesion which later started peeling. He had mild lactose intolerance but was not having serious abdominal complaints. He had a BMI of 20.6. He is now a university graduate and works in a government institution. He regularly complains severe fatigue and sleepiness for the past two years and a recent onset of forgetfulness and gait instability. His blood studies were normal. Peripheral morphology showed hypersegmented neutrophils and serum B12 levels were low. IgA tTG and IgA AGA levels were significantly elevated. He was then put on a strict gluten free diet and a parenteral cyanocobalamin. Within the first week he had significant improvement of the fatigue and his lips became less and less dry with complete healing after 3 months.

**Conclusion:** atypical presentation of celiac sprue in adults warrants high degree of suspicion and early diagnostic intervention to help detect such cases.

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### **Congenital malformations-comparison of the incidence in the period of 2000-2004 and 2005-2009**

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**Background & Aims:** Congenital malformations (CM) are defined as abnormal structure of the organism resulting from disrupted embryogenesis. Many factors influence the appearance of CM. Regarding different criteria and authors, the incidence of CM at newborns is between 2–7%.

**Methods:** A retrospective analysis of 19097 liveborns delivered at SHGO Cair, during 2000–2004, had been performed. Database (Access 2000) from Neonatal Unit had been used for accessing the data. The incidence and percentage of CM among different systems had been determined and a retrospective analysis of 15293 liveborns delivered at SHGO Cair, during 2005–2009 was performed. Database (Access 2005) from Neonatal Unit was used. The incidence and percentage of CM among different systems were determined.

**Results:** During the period of 2000-2004, among a total of 19097 liveborns, 736 or 3.85% had CM. The incidence between different years was: 4.28% in 2000, 3.92%–2001, 3.79%–2002, 3.20%–2003 and 3.98% in 2004. Regarding different organ systems the distribution was: 58.1% of all CM were the anomalies of musculoskeletal system, 14.6%–cardiopathies, 8.1%–anomalies of urogenital system 7.2%–CM of gastrointestinal system, etc. Whereas, during the period of 2005–2009, among a total of 15293 liveborns, 573 or 3.75% had CM. The incidence between different years was: 4.02% in 2005, 3.42%–2006, 3.22%–2007, 4.23%–2008 and 3.85% in 2009. Regarding different organ systems, the distribution was: 40.31% of all CM were the anomalies of musculoskeletal system, 21.81%–cardiopathies, 20.07%–anomalies of urogenital system, 12.04%–CM of gastrointestinal system, 5.76% of CNS, etc.

**Conclusions:** During the five years period of 2000–2004, the incidence of CM was 3.85%, which is in accordance with data from the literature. Among years, the incidence varies from 3.2% to 4.3%. During the five years period of 2005–2009, the incidence of CM was 3.75%, which is in accordance with data from literature. Among years, the incidence varies from 3.2% to 4.3%. The anomalies of musculoskeletal system are the most frequent, followed by those from cardiovascular, urogenital, gastrointestinal and central nervous system. Comparing the five-year periods of 2000–2004 and 2005–2009, we see an almost identical incidence. Using these statistics we see there was no rise in incidence despite the possible after effects of the Balkan wars. CM incidence of gastrointestinal system, compared with other systems presenting, occupies fourth place. This presents a serious problem that requires a commitment as a team in prenatal and postnatal period. Congenital malformations still remain an important medical and social problem, requesting more serious nationwide engagement, as in medical, socioeconomic, ecological aspect, etc.

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