

**Abstract Book**

# **GUT 2007**

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Gastroenterology and Hepatology**

*Incorporating the*

**7<sup>th</sup> International Advanced  
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**Malaysian Society of  
Gastroenterology and Hepatology**



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## MILESTONES IN THERAPEUTIC ENDOSCOPY – A PERSONAL JOURNEY

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Today, therapeutic endoscopy includes more than 30 methods that are routinely performed in clinical practice. It is estimated that therapeutic endoscopy has replaced approximately 50% of conventional abdominal surgery. The first milestone is the foreign body removal from the esophagus and stomach in the early nineties by Guisez, Starck and Jackson using rigid instrument. Starck is known for his Starck-Sonde formerly used for dilatation of achalasia. The first sclerotherapy of esophageal varices was performed by Swedish surgeon Crafoord and his ENT colleague Frenckner in 1939. Fiberendoscopic injection hemostasis was first performed for bleeding peptic ulcer by Soehendra in 1976. Today, a variety of endoscopic techniques are available with which most of the gastrointestinal bleeding can be controlled avoiding surgery. The use of cyanoacrylate for controlling esophagogastric variceal hemorrhage was first published in 1986 by Ramond in France and Soehendra in Germany. Together with the band ligation, invented by Stiegmann and Goff in 1989, later modified as multiband ligator by Saeed (1996), the management of the most serious life threatening complication of portal hypertension has been revolutionized. In 1969 the first polypectomy in the colon was performed by Wolff & Shinya in the USA, and Niwa in Japan. Today, snare resection is being widely practiced also in other parts of the gastrointestinal tract. EMR in piece-meal fashion has recently been increasingly replaced by en bloc ESD, a sophisticated resection technique that was born in Japan. With this technique, the indication spectrum of EMR for early gastric cancer could be expanded. Another important milestone in therapeutic endoscopy is the introduction of endoscopic papillotomy by Classen in Germany and Kawai in Japan in 1973, just five years after the first endoscopic cannulation by Mc Cune. Balloon dilatation of the papilla, introduced by Staritz in 1983 has enriched the catalog of endoscopic treatment of CBD stones which is today mainly performed in cirrhotic patients with coagulation disorder. By the aid of several lithotripsy techniques, the vast majority of CBD stones can now be removed without surgery. Endoscopic biliary stenting, first performed by Soehendra in 1979 has further opened access to the biliary and pancreatic duct system for more endoscopic interventions. Self expandable metallic stents have been developed not only for the bile duct, but also to be used in the gastrointestinal tract. Another enrichment of endoscopic palliation is the introduction of PEG by Gauderer and Ponsky in 1980. The invention of endoscopic ultrasound in 1980 has led to further development of therapeutic EUS. Double-balloon enteroscope introduced by Yamamoto in 2001 has opened the gate to the small intestine for diagnostic and therapeutic procedures. In this decade, we are witnessing the tremendous movement towards to natural orifice transluminal endoscopic surgery (NOTES) that may be on the threshold of a new dimension of therapeutic endoscopy requiring closer collaboration between gastroenterologist and surgeon, and perhaps also a new discipline.

## EVIDENCE BASED MEDICINE IN THE REAL WORLD

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Evidence-based medicine (EBM) is playing an important role in modern medicine, from clinical research to clinical practice. EBM is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients (Sackett, 1996). Practicing EBM involves several steps in clinical practice comprising of 5 steps, by converting the information needed into an answerable question, tracking down the best evidence, appraising the evidence critically, integrating the evidence with clinical expertise, patient values and clinical feasibility; and evaluating and improving the process for future use.

It has been widely suggested that learning the skills of EBM is the most appropriate method for moving from opinion-based to evidence-based medicine. Every clinician can practice EBM in many different ways, from asking an important clinical question to conducting their literature search and then making a treatment decision, or, by applying local guidelines to an individual patient case, or contributing to a properly conducted clinical trial or becoming involved in the development of systematic reviews/meta-analyses, practice guidelines, etc. Because of heavy clinical service demands time is limited, and physicians especially those in the front-line usually practice EBM by looking for the “quick” answer to evidence from systematic reviews, which is possibly the most important component of EBM. They may refer for possible diagnostic and treatment strategies to available practice guidelines, which are usually established by synthesizing available evidence and specialist experience and opinion. It is suggested by a UK study that promoting and improving access to summaries of evidence, rather than teaching all general practitioners literature searching and critical appraisal, would be the more appropriate method of encouraging evidence based general practice; while, skilled general practitioners should be encouraged to develop local evidence based guidelines and advice. (McColl 1998)

Although EBM has many benefits, it also has limitations and cannot replace individual clinical expertise; the introduction of EBM is also not the end of the physician's clinical freedom. First, we should appreciate that systematic reviews/meta-analyses are a form of retrospective research in which the quality depends on the quality of the previous individual studies; therefore they are also subjected to bias. Although thousands of RCTs are published every year, to enhance the practice of EBM, trialists need to pay close attention to the rigorous implementation and reporting of important methodological safeguards against bias (Montori 2006). Second, judgements about evidence and recommendations are complex. Grading the quality of underlying evidence and the strength of the recommendations enhances the usefulness of clinical guidelines. However, grading approaches have been varied and have shortcomings. The newly proposed GRADE system for grading evidence has been developed to help make well-informed decisions (Atkins 2005). There are important practical links between evidence-based medicine, opinion-based medicine, and real-world medicine. Doctors have long considered it a right and a duty to do what they regard as the best for their individual patients (Hampton 2002). If evidence is corrupted and patients' preferences are ignored, this will lead to the end of EBM (Montori 2007). Evidence-based practice requires clinical expertise, common sense, understanding of the circumstances and values of and for the patient, and judicious application of the best available evidence. We need to ensure that we can apply the tools and approaches for an “evidence-based, patient-centered clinical practice”.



## **SCREENING AND SURVEILLANCE FOR COLORECTAL CANCER: RATIONALE AND RECOMMENDATIONS**

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Colorectal cancer meets all WHO criteria for screening. It is common, lethal if diagnosed late, detectable through asymptomatic screening, and effective treatment is available if diagnosed early. Randomized controlled trials of screening (for faecal occult blood followed by colonoscopy) demonstrate reduced (18-33%) mortality from the disease, providing level 1 evidence of efficacy.

In Britain and Australia, population based screening has commenced with initial testing for faecal occult blood. Central administration and documentation provides equity of access and evaluation of the programme. In Poland and some German states, colonoscopy is available to average risk persons from 50 years, but population acceptance has been poor. In USA, many states mandate consumer-requested access to screening by any modality.

A Bowel Cancer Pilot Program, which tested acceptance, explored workforce issues, and data management was implemented in 2002 in Australia. Five per cent of positives were diagnosed with cancer at mostly early Dukes' stage or as advanced adenomatous pathology (an additional 13%). Consequently, national screening has been introduced, with currently invitations to all Australians turning 55 and 65 years, but over a decade, all between 55 and 75 years will be invited biennially. Initial results indicate acceptance at approximately 45%. Important management issues are engagement of general practice, quality assurance around colonoscopy, and collection of outcome information from positive screenees.

Australia has had a reduction in mortality from 32 to 19.6/100,000 from 1968 to 2004, explicable by a number of recent attributes of the healthcare system including pre-Program opportunistic screening.

Colorectal cancer is already the commonest cancer affecting both males and females in Malaysians. Screening will become an important issue in Malaysia, especially with increasing western lifestyle orientation and its associated increased incidence of colorectal cancer.

## DOES TREATMENT ALTER NATURAL HISTORY OF CHRONIC VIRAL B HEPATITIS? A CRITICAL PERSPECTIVE

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Chronic hepatitis B infection has three different clinical phases: the immune tolerant, the immune reactive and the low replicative phase. Progression to cirrhosis and subsequent development of hepatocellular carcinoma (HCC) have been more frequently described in patients with prolonged immune reactive phases in whom the innate and specific CD8 immune responses were not adequate enough to control viral replication. The annual rate of progression from chronic hepatitis to cirrhosis is around 2-6% in HBeAg (+), and 8-10% in replicative HBeAg (-) patients. Risk factors known to be associated to progression to cirrhosis are high serum HBV-DNA levels and HIV co-infection among others. While chronic hepatitis B mortality rate at five years is low (0-2 %), compensated and decompensated cirrhotic patients have a much higher rate, ranging from 14-20 and 70-86 % respectively.

AASLD, EASL and APASL consensus conferences agreed that HBV treatment is indicated only in the subgroup of patients with immune reactive phase. The goal of therapy should be to obtain eradication of HBV infection and prevent HBV complications and liver related mortality. Unfortunately, due to the presence of extrahepatic reservoirs and persistence of cccDNA within the nuclei of the hepatocytes, complete eradication of HBV is seldomly achieved in chronically infected patients.

Nevertheless, there is now accumulating evidence that large and prolonged reductions in HBV DNA achieved with the new oral compounds can lead to a decrease, halt or reverse liver disease progression. Therefore, virologic suppression became a major goal of treatment for chronic hepatitis B.

The fact that this prolonged and profound HBV DNA inhibition is challenged by the presence of drug resistance and that treatment is indicated only in a minority of the chronically infected patients makes the overall impact of HBV therapy a less than optimal approach to impact the natural course of HBV infection.

## DOES TREATMENT ALTER THE NATURAL HISTORY OF CHRONIC HEPATITIS C DISEASE?

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The natural history of Hepatitis C is well known and includes progression of the infected liver through the various stages of fibrosis until cirrhosis results with either cancer or decompensated liver disease preceding death. One third of patients will progress down this pathway to cirrhosis over a period of up to 30 years. On the other hand, as many as one third of patients will never get beyond a chronic inflammation of the liver. Therefore, whilst it is accurate to consider the natural history in terms of the complete disease process for the population as a whole, for individuals in low-risk groups for disease progression, their natural history is rather less gloomy.

Two treatment modalities exist for patients with Chronic hepatitis C infection: liver transplantation and antiviral therapy. As liver transplant is restricted to those who are dying of end-stage liver disease or hepatocellular cancer, there can be little debate that successful surgery interrupts the natural history of the disease. But hepatitis C returns in all grafts, and graft and recipient survival are not as good as other indications for liver transplantation. Combination therapy with PEG-Interferon and Ribavirin fails to clear the virus in up to half the recipients and those patients with more advanced disease are less likely to respond. Furthermore, combination therapy is poorly tolerated and has unpleasant side-effects. Individuals who are fortunate enough to clear the virus with combination antiviral therapy can expect improvement in liver histology, survival, health related quality of life and a reduced hepatocellular cancer risk.

In conclusion, liver transplant unequivocally alters the natural history of hepatitis C infection. Combination anti-viral therapy probably does alter the natural history, but *only* if the disease is going to progress, *only* if the patient can tolerate the treatment and *only* if the virus is successfully and permanently cleared.



## IDENTIFYING HIGH-RISK GROUPS FOR GASTRIC CANCER

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Stomach cancer is the second most common cancer worldwide, with an estimated 934,000 new cases in 2002 (8.6% of new cancer cases) and the second most common cause of death from cancer (700,000 deaths annually)<sup>[1]</sup>.

The geographical distribution of stomach cancer is characterized by wide international variations; high-risk areas [age-standardized rate (ASR) in men, > 20 per 100,000] include East Asia (China, Japan), Eastern Europe, and parts of Central and South America. Incidence rates are low (ASR<10 per 100,000 in men in Southern Asia, North and East Africa, North America, and Australia and New Zealand)<sup>[1]</sup>.

The population subgroups with increased risk of gastric cancer have been well documented, such as those with family history of stomach cancer, atrophic gastritis<sup>[2]</sup>, *H. pylori* infection<sup>[3]</sup>, intestinal metaplasia, and gastric dysplasia<sup>[4]</sup>.

The evidence linking *H. pylori* infection to cancer of the stomach was considered sufficient by IARC in 1994 to classify this bacterium as carcinogenic in humans<sup>[3]</sup>. *H. pylori* infection increases the risk for developing gastric cancer 2 to 8 fold<sup>[5-7]</sup>. Our meta-analysis indicates that *H. pylori* infection is strongly associated with early gastric cancer when compared with non-neoplasm controls or advanced gastric cancer (OR 3.38, 95% CI 2.15–5.33)<sup>[8]</sup>.

Both low serum pepsinogen I and a low pepsinogen I/II ratio are recognized as serological markers of gastric atrophy<sup>[9,10]</sup>. The combination of serum pepsinogen and anti-*H. pylori* antibody provides a good predictive marker for the development of gastric cancer<sup>[2]</sup>. Overall 5-year survival is significantly better for tumors detected by screening compared with those detected by open access clinic<sup>[4]</sup>.

A recent study in Singapore shows that screening for gastric cancer from 50-70 year old by endoscopy can potentially be cost-effective<sup>[11]</sup>. Public policy strategies to identify patients at risk for *H. pylori*-related gastric malignancy are likely to be complex, but testing and treating for the infection earlier rather than later in life is anticipated to be the more beneficial approach<sup>[12]</sup>. Identifying and screening by endoscopy, combination of serum pepsinogen and anti-*H. pylori* antibody, test and treat for *H. pylori* infection in high risk populations provide good approaches to optimize the cost-effectiveness in the prevention of gastric cancer.

## IMPROVING OUTCOMES AND TREATMENT FOR GASTRIC CANCER

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Gastric cancer traditionally has a poor prognosis because of late presentation, but it is curable if diagnosed at an early stage. We propose 4 strategies to improve outcomes: (1) early detection by screening of high risk groups; (2) clarification of the hypothesis that *Helicobacter pylori* (*H pylori*) eradication in endemic areas with high-incidence of gastric cancer is an effective primary prevention strategy; (3) improvement of treatment by clinical trials, coupled with molecular characterization of tumors; and (4) improving our biologic understanding of gastric carcinogenesis.

New well-designed clinical trials are incorporating gene expression profiling of tumors. For example, the expression of 5-FU pathway genes in gastric cancers was reported by Ichikawa to be predictive of response to chemotherapy and of survival. Specific gene expression was also associated with favourable response to Paclitaxel treatment. Pharmacogenetic profiling of specific polymorphisms in patients may allow the selection of optimal individualised treatment for patients.

Improving our molecular understanding of gastric carcinogenesis will open the way to better diagnosis, discovering new targets for therapy and selection of optimal therapy. Our group recently reported that loss of expression of a novel tumor suppressor gene *RUNX3* is causally related to the genesis and progression of gastric cancer. About 45% to 60% of surgically resected gastric cancer specimens do not express *RUNX3* mainly due to hypermethylation of its promoter region. In a separate series of 97 cases of human gastric cancer, *RUNX3* was found to be inactive in 82% of cancers through either gene silencing or protein mislocalization in the cytoplasm. The very high frequency of inactivation suggests that *RUNX3* silencing is a common and perhaps critical event in sporadic human gastric cancer.

In this new era of molecular medicine, we can combine the expertise of clinicians and scientists, to further improve outcomes for our patients.

## THE CORRELATION BETWEEN NON-INVASIVE MARKERS AND FIBROTIC INDEX ON LIVER HISTOLOGY

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### BACKGROUND

Liver biopsy is the gold standard to assess severity of liver fibrosis in CHC patients. However, it is invasive and the accuracy may be doubtful due to sampling errors and inter-observer/intra-observer discrepancy.

### OBJECTIVES

To determine the correlation between fibrotic index and serum markers: liver enzymes (ALT, AST, GGT); liver biosynthetic functions (albumin, PT, HDL, LDL, haptoglobin); and RAAS (aldosterone).

### METHODOLOGY

This was a cross-sectional study conducted at Hospital Alor Star over a 20-months period. Consecutive CHC patients who underwent USG-guided liver biopsy and fulfilled the criteria were recruited where blood was withdrawn for serum markers: ALT, AST, GGT, albumin, PT, HDL, LDL, haptoglobin and aldosterone. The biopsy specimen (length >10mm) was examined by a single pathologist (single blinded). All specimens were analyzed based on Ishak score and grouped into: Mild Fibrosis (S0-3) or Severe Fibrosis (S4-6).

### RESULTS

60 patients completed the study (48 MF, 12 SF). For association between fibrotic index and enzymes, ALT ( $p<0.005$ ) and GGT ( $p<0.005$ ) were significantly higher in SF. For association between fibrotic index and biosynthetic function, albumin ( $p<0.005$ ), HDL ( $p<0.005$ ) and haptoglobin ( $p<0.005$ ) were significantly higher in MF. For association between fibrotic index and RAAS, aldosterone ( $p<0.005$ ) was significantly higher in SF. Based on Univariate Logistic Regression, higher ALT (OR 1.061;  $p<0.005$ ), higher GGT (OR 1.035;  $p<0.05$ ) and higher aldosterone (OR 1.020;  $p<0.005$ ) were significant predictors for SF; and higher albumin (OR 0.584;  $p<0.005$ ), higher HDL (OR 0.001;  $p<0.005$ ) and higher haptoglobin (OR 0.103,  $p<0.05$ ) were significant predictors for MF. Finally, based on Multivariate Logistic Regression, only higher ALT (OR 1.062;  $p=0.022$ ) and higher aldosterone (OR 1.017;  $p=0.036$ ) were significant predictors for SF.

### CONCLUSIONS

Serum ALT and aldosterone level correlate significantly with severity of liver fibrosis. There was no significant correlation between severity of liver fibrosis and AST, GGT, albumin, PT, HDL and haptoglobin level in this study. Serum ALT and aldosterone level may be used to monitor progression of liver fibrosis. Treatment strategies to reduce aldosterone level may be an option in the management of liver fibrosis.

### ABBREVIATION

RAAS- renin-angiotensin-aldosterone system, MF- mild fibrosis, SF- severe fibrosis, OR- odd ratio



## **RANDOMIZED COMPARISON BETWEEN ADRENALINE INJECTION ALONE AND ADRENALINE INJECTION COMBINED WITH MONOPOLAR ELECTROCOAGULATION IN THE TREATMENT OF ACUTE BLEEDING PEPTIC ULCER**

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Upper gastrointestinal haemorrhage (UGIH) is a common medical emergency associated with significant morbidity and mortality. Peptic ulcers with active bleeding or a non-bleeding visible vessel and adherent clot require aggressive endoscopic treatment. The current trend favours combination therapy using injection as well as thermal or mechanical therapy. The dual treatment of adrenaline injection followed by electrocoagulation was theoretically appealing. We embark on this study to evaluate the efficacy and safety between two treatment options, either adrenaline injection alone or adrenaline injection combined with monopolar electrocoagulation for the treatment of acute bleeding peptic ulcer. It was a prospective study with cohort randomized from 1st September, 2005 till 31st August, 2006 in Sarawak General Hospital. Sixty nine patients whom fulfilled the criteria were randomized to receive either one of the treatment options; 36 received adrenaline injection alone while 33 patients had combined treatment. Endoscopic haemostasis was achieved in 26/36 patients (72%) who received adrenaline injection alone and 30/33 patients (91%) who received additional monopolar electrocoagulation treatment (P value = 0.047). Requirement for emergency operation (1 patient in adrenaline injection alone vs 1 patient in combine therapy), blood transfusion (2 vs 2 units), hospital stay (4 vs 4), ulcer healing at six weeks (76% vs 84%), and in hospital mortality (0 vs 0), were all not statistically significant. The only significant difference was clinical re-bleeding in the two treatment arms, (10 patients vs 3 patients). There was no significant difference in the rest of the measures even in the subgroup of patients with different Forrest classification. The addition of monopolar electrocoagulation treatment after endoscopic adrenaline injection confers an advantage in the arrest of peptic ulcer haemorrhage.

## **A PROSPECTIVE COMPARATIVE STUDY OF RAPID ACCESS ENDOSCOPE SERVICE TO THE EXISTING SYSTEM IN NEGERI SEMBILAN: A MOVE TOWARDS SPECIALIZED HEALTH CARE CLOSER TO PEOPLE**

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### **INTRODUCTION**

Early detection of stomach and esophageal cancers has been an uphill task. Most patients present with advanced disease because they are often asymptomatic in the earlier stages. In Malaysia, stomach and esophageal cancers are diagnosed late due to empirical treatment in health centers and subsequently delay in endoscope for high risk patients.

RAPID ACCESS endoscope service is defined as the provision of a diagnostic endoscopic procedure by direct request of a medical officer without prior hospital consultation. In Negeri Sembilan we introduced this new referral system called RAPID ACCESS Endoscope service whereby any medical officers in Negeri Sembilan can request for OGDS without prior consultation in surgical outpatient clinics.

### **AIM**

1. To detect stomach and esophageal cancers early.
2. To make endoscope services readily available to all health centers.

### **METHOD**

This is a prospective control study evaluating the Rapid Access endoscope service in Negeri Sembilan compared to existing referral system [control]. Patients who fulfill the pre-validated referral criteria [MARK's Quadrant] in the respective centers will be referred to our hospital for OGDS. All OGDS via RAPID ACCESS will be done within 2 weeks.

### **RESULTS**

There were total of 118 referrals via RAPID ACCESS endoscope services in 8 months. Among these referrals, 10 cancers were detected (8 stomach and 2 esophagus). These include 2 early cancers (Stage IIa & IIb). Detection rates for benign, precancerous and malignant lesions were 21%, 55% and 9% respectively [ $p < 0.0001$ ]. Diagnostic yield of RAPID ACCESS referral system to detect a pathological lesion is 85% [ $p < 0.0001$ ].

### **CONCLUSION**

RAPID ACCESS endoscope service in Negeri Sembilan is the first targeted screening programme in Malaysia. RAPID ACCESS Endoscope service has been successfully used as a referral system for detecting stomach and esophageal cancers early.

## BARRETT'S OESOPHAGUS AND HISTOLOGICAL OESOPHAGITIS – PREVALENCE AND CORRELATION WITH ENDOSCOPIC FINDINGS AND SYMPTOMS

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### OBJECTIVES

1. To determine the prevalence of Barrett's oesophagus among patients with reflux oesophagitis.
2. To correlate between endoscopic findings with histological oesophagitis and Barrett's oesophagus.
3. To correlate between symptoms with oesophagitis severity on endoscopy and histology.

### METHODOLOGY

More than 500 records were screened from January 2005 until July 2007 and finally 145 records were recruited into the study. A standardized data entry form was used. Statistical analysis was performed using SPSS 12.0.1. Agreement is defined as Kappa value more than 0.4 and p value less than 0.05 as significant.

### RESULTS

Mean age was  $53.7 \pm 1.3$  years old. Malay constituted 77% and male 60%. The prevalence of Barrett's oesophagus among patients with endoscopic oesophagitis was 24% (n=35). The endoscopic finding of "islands" predicted 64% of the Barrett's oesophagus ( $p < 0.001$ ). Only 1 patient had dysplasia in severe Barrett's oesophagus. Only 9% of the Barrett's oesophagus had a positive *Helicobacter pylori* status ( $p = 0.636$  NS). The severity of endoscopic oesophagitis (Los Angeles classification) had poor agreement with severity of oesophagitis on histology (Kappa-0.04). Similarly symptoms had poor correlation with histological as well as endoscopic oesophagitis. Despite the oesophagitis on endoscopy, there was 24% of the histology reports were normal.

### CONCLUSION

The prevalence of Barrett's esophagus among patients with endoscopic oesophagitis was high but dysplasia remained rare. The agreement between histological oesophagitis and endoscopic oesophagitis was poor. Similarly correlation between symptoms with histological and endoscopic oesophagitis was poor.



## **POOR BOWEL PREPARATION IN MALAYSIAN ADULTS – PREVALENCE, PREDICTIVE FACTORS AND IMPACT ON COLONOSCOPY PERFORMANCE**

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### **BACKGROUND**

Bowel preparation for colonoscopy has been shown to be independent of the type of purgative used. There is limited data on patient and clinical factors that influence bowel preparation in our population.

### **OBJECTIVES**

- 1) To determine the adequacy
- 2) Identify predictive factors and
- 3) Examine the impact of poor preparation on colonoscopy performance.

### **METHODS**

Prospective data on consecutive adult patients undergoing colonoscopy were obtained as follows: compliance with bowel preparatory instructions (diet restriction + 20mg Bisacodyl + 2 litres of PEG solution), biodemography, clinical parameters and endoscopists' (blinded to patients' compliance) assessment of bowel cleanliness. The latter was based on the Douglas K. Rex MD classification, and modified into 3 categories: good, intermediate and poor. Independent risk factors for poor preparation and its' impact on colonoscopy performance were determined.

### **RESULTS**

501 patients (mean age 60.06 +13.96, 51.2% male, mean BMI 23.5 + 4.1kg/m<sup>2</sup> and 60.4% above secondary level education) were studied between October 2006 to March 2007. Poor bowel preparation was reported in 151 (30.1%) patients and 118 (23.6%) patients failed to comply with bowel preparation instructions. Poor bowel preparation was found to be strongly associated with age > 65years ( $p = 0.006$ ), inability to read English/ Malay ( $p \leq 0.001$ ), education below secondary level ( $p \leq 0.001$ ), inpatient status ( $p < 0.001$ ), presence of co-morbidity ( $p = 0.013$ ), non-compliance to bowel preparatory instructions ( $p \leq 0.001$ ), inability to consume lavage solution within 1 hour ( $p \leq 0.001$ ), inability to complete lavage solution ( $p \leq 0.001$ ), non-compliance with dietary restriction ( $p < 0.001$ ) and a prolonged for colonoscopy appointment time ( $p \leq 0.026$ ). Regression analysis revealed that non adherence to preparation regime (OR 0.29, 95% CI = 0.16-0.53), inability to complete gut lavage (OR 2.7, 95% CI = 1.81 – 6.13) and low educational level (OR 2.5, 95% CI = 1.44 - 4.37) were independent predictors of poor preparation amongst our patients. In both senior and trainee endoscopists, poor bowel preparation resulted in a lower caecal intubation rate ( $p \leq 0.001$ ), longer caecal intubation time ( $p \leq 0.001$ ), and a longer duration of colonoscopy. Poor bowel preparation further resulted in increased abdominal discomfort in patients during (81.8% vs 38.9%,  $p < 0.001$ ) and after (17.6% vs 3.7%,  $p < 0.001$ ) colonoscopy.

### **CONCLUSION**

Poor bowel preparation has a significant impact on colonoscopy performance and patient's symptoms. Lower educational levels and non-compliance with standard bowel preparation are the main predictive factors in our population.

## OUTCOME OF INTRAVENOUS OMEPRAZOLE AND PANTOPRAZOLE AFTER SUCCESSFUL ENDOSCOPIC HAEMOSTASIS ON NON-VARICEAL UGI BLEEDING: A META-ANALYSIS

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### INTRODUCTION

Endotherapy is very effective in achieving haemostasis in more than 90% of patients with non-variceal bleed. Unfortunately rebleeding occurs in 10– 30% of patients, with an average of 21%. Additional medical therapies with proton pump inhibitor which aim at stabilising the clot by increase the gastric pH is often required. There is no trial published in full paper that compares directly the outcome between intravenous form of Omeprazole and Pantoprazole after successful initial haemostasis. This review aims to assess the treatment effect of intravenous form of Omeprazole and Pantoprazole after successful initial endoscopic haemostasis through meta-analysis.

### METHOD

Searches of the online databases Pubmed were performed and relevant full text manuscripts published in English language journals between 1990 and 2006 were reviewed. Search is extended manually for articles listed in Cochrane database and references in retrieved articles. Eligible studies were randomized controlled trials (RCTs) that compared the treatment effects of the intravenous form of Omeprazole and Pantoprazole with placebo or H<sub>2</sub> receptor antagonists in patients with acute non-variceal UGI bleeding. Outcomes were rebleeding, need of surgery and mortality. *p* value, Odd ratios (ORs) with 95% interval were calculated.

### RESULT

Only 8 articles fulfilled the inclusion criteria: 5 involved Omeprazole and 3 Pantoprazole. A total of 959 patients were involved in the selected 8 RCTs. Data analysis is summarized in table below:

Outcome	Type of PPI	PPI (%)	Control (%)	OR ( 95% CI)	<i>p</i> value
Rebleeding	Omeperazole	11.5	23	0.44 (0.26- 0.70)	<0.005
	Pantoprazole	6.6	17.1	0.38 (0.21- 0.72)	<0.005
Need for surgery	Omeprazole	5.6	8.5	0.63 (0.30- 1.35)	0.26
	Pantoprazole	1.9	6	0.31 (0.08- 1.18)	0.08
Mortality	Omeprazole	3.7	7.1	0.50 (0.21- 1.22)	0.14
	Pantoprazole	2.7	3.5	0.75 (0.25- 2.20)	0.6

### DIRECT COMPARISON BETWEEN OMEPRAZOLE AND PANTOPRAZOLE

	Omeprazole (%) vs. Pantoprazole (%)	OR (95% CI)	<i>p</i> value
Rebleeding	11.5 vs. 6.6	1.83 (0.96- 3.49)	0.09
Need for surgery	5.6 vs. 1.9	2.98 (0.83- 10.73)	0.09
Mortality	3.7 vs. 2.7	1.43 (0.49- 4.19)	0.52

### CONCLUSION

When compare to either placebo or H<sub>2</sub> antagonist, both IV Omeprazole and Pantoprazole are statistically significant in reducing the risk of re-bleeding, but the outcome related to need for surgery and mortality is not significant. Direct comparison of both PPI, did not show any difference in the rate of rebleeding, need for surgery and mortality.

## UTILITY OF ENDOSCOPIC ULTRASOUND GUIDED FINE NEEDLE ASPIRATION CYTOLOGY (EUS-FNA)

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### BACKGROUND

EUS FNA is a recognised method to assess and help differentiate lesions of differing aetiologies. EUS-FNA sampling error may lead to failure of diagnosis.

### AIM

To determine the accuracy of EUS-FNA in assessing mass lesions.

### METHOD

A retrospective analysis of EUS-FNA performed over a 1 year period was carried out. Histological reports were obtained and correlated with final outcome of patient. FNA results were categorised into 3 groups : (1) FNA positive, correct diagnosis, (2) FNA negative, correct diagnosis, (3) FNA negative, incorrect diagnosis.

### RESULTS

Between January 2006 and December 2006, 610 EUS procedures were carried out. 123 patients had EUS-FNA performed. 35 patients were excluded because we were unable to obtain the final outcome as these were external referrals. (1) FNA was positive, in keeping with the correct diagnosis in 44 patients. (2) FNA was negative in keeping with the benign pathology in 17 patients. (3) FNA negative but correct diagnosis made by other means in 27 patients.

EUS FNA was able to provide an accurate assessment in 44 of 71 patients (sensitivity 62%, specificity 100%; PPV 100%, NPV 39%).

### CONCLUSIONS

The value of EUS FNA lies in the high specificity and positive predictive value. The low sensitivity and negative predictive value may be explained by the inter-observer variability of pathologists and the different storing mediums which may affect the quality of specimens obtained. Furthermore, an increase in the number of passes and the presence of an on-site cytologist may help to improve the diagnostic yield of EUS-FNA.



## THE SENSITIVITY AND SPECIFICITY OF ESOMEPRAZOLE 40 MG BD AS A DIAGNOSTIC TEST IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE (GERD)

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### INTRODUCTION

The prevalence of GERD in the Asian population is rising. 24-hour pH monitoring and upper endoscopy are used to confirm the diagnosis. However, these procedures are invasive, costly and not readily available. Proton pump inhibitor test has been considered a cheap, easy and effective alternative.

### OBJECTIVE

To determine the sensitivity and specificity of high-dose esomeprazole 40 mg twice daily in diagnosing GERD and to assess its safety and tolerability.

### METHODS

A prospective, randomized, double-blind pilot study was conducted at HUKM from September 2006 to March 2007. Patients were subjected to upper endoscopy and 24-hour pH monitoring and subsequently randomized to receive either esomeprazole 40 mg twice daily or esomeprazole 40 mg daily. Symptoms improvement based on a Likert scale were recorded and calculated for sensitivity and specificity.

### RESULTS

46 patients with predominant reflux symptoms of heartburn and acid regurgitation were recruited. Mean age was  $45 \pm 13$  with 48% males. 43.5% were GERD positive, whereby 35% were found to have reflux oesophagitis. Baseline demography was comparable for both groups. Esomeprazole 40 mg twice daily test achieved 80% sensitivity at day four and 100% at day seven onwards. The specificity was variable, ranging from 27% to 36%. 33% of patients taking esomeprazole 40 mg twice daily had mild and transient side effects.

### CONCLUSION

Esomeprazole 40 mg twice daily showed a trend towards a high sensitivity in diagnosing GERD and a shorter treatment duration but a low and variable sensitivity. It was also found to be safe and tolerable with minimal side effects.

## UPPER GASTROINTESTINAL HAEMORRHAGE IN CRITICALLY ILL PATIENTS AT THE INTENSIVE CARE UNIT OF HUKM

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### BACKGROUND

Acute upper gastrointestinal haemorrhage is a common problem in critically ill patients in the intensive care unit (ICU). They are not suitable to be transferred to an endoscopy suite for oesophago-gastroduodenoscopy (OGD). Most will require the OGD to be performed at bedside in the ICU.

### AIM

A review of the OGDs performed for acute upper gastrointestinal haemorrhage in the ICU of HUKM.

### METHODS

We reviewed all the endoscopies performed in our ICU for patients with upper gastrointestinal bleeding between Jan 2006 to May 2007.

### RESULTS

A total of 33 OGDs were performed in 20 patients. 13(65%) were males and 6(35%) were females. Respiratory failure was the main reason for admission to ICU. 4(%) were in sepsis prior to developing upper gastrointestinal bleeding. 3 patients who were admitted electively after operation had upper GI bleeding. These were CABG and bariatric surgical patients. 8(40%) patients required OGDs more than once. 4 patients required 2 OGDs. The findings were – bleeding peptic ulcer (13), gastritis (4), gastropathy (3), oesophagitis (2), Dieulafoy lesion (1) and black oesophagus (1). All patient requiring repeat scopes had at least a Forrest IIB – Forrest IA type ulcers. 3 patients had to be injected with adrenaline for Forrest IIB and Forrest IB ulcers. Only one patient needed under-running of bleeding ulcer.

### CONCLUSION

OGD was able to diagnose the cause of bleeding in most of the cases of upper gastrointestinal haemorrhage in critically ill patients. Most cases of upper GI haemorrhage were due to peptic ulcer disease. Repeat OGD for reassessment was necessary and beneficial in managing the patients condition. OGD performed on critically ill patient in ICU are as effective as performing it at endoscopy suite.

## PREVALENCE OF UPPER GASTROINTESTINAL BLEED IN END STAGE RENAL FAILURE PATIENTS WHO UNDERGO HEAMODIALYSIS IN KOTA BAHRU, KELANTAN

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### BACKGROUND

Acute gastrointestinal hemorrhage (AGIH) is one of the most common medical emergencies and remains a major cause of morbidity and mortality among patients admitted to the hospital. Among advance stage chronic renal disease patients, it has been estimated that gastrointestinal hemorrhage accounts for 3 to 7% of all death. There is, as yet, no published local data pertaining to this subject. Statistic on the risk and prognosis would be valuable because it will certainly affects decisions concerning intensive care unit admission, emergency endoscopy and gastrointestinal surgery.

### OBJECTIVE

A case-controlled study on the clinical presentation, etiology of gastrointestinal lesion, clinical course, morbidity and mortality of patients with chronic renal disease evaluated for acute AGIH was performed in HUSM and HRPZ II.

### METHOD

This study is a case control study conducted from January 2003 to December 2006 (a period of 48 months). 53 patients with chronic renal disease and eligible for the study according to the inclusion and exclusion criteria were selected as cases. Another 107 patients were selected via perpassive sampling as the control group (ratio 1:2). Data pertaining to endoscopic diagnosis, contributing factors of bleeding and the course and outcome of the hospitalization were analyzed. Continuous variables were expressed as mean and standard deviation, whereas categorical variables were calculated for frequency and percentage. Chi square test or Fisher exact test and independent t-test was used as appropriate.

### RESULTS

Prevalence of acute UGIH in patients with chronic renal disease was 9.3%. Gastric ulcer was the most common cause of UGIH in the renal failure group, followed by duodenal ulcer and erosive gastritis. No significant difference noted in bleeding aetiology between cases and controls. The mean hospital stay was much higher at 18.3 days compared to 9.7 days in the control group. The chronic renal failure group had a more severe bleeding episode evidenced by a higher requirement of blood transfusion ( $p=0.001$ ). The group with chronic renal disease had a significantly higher rate of re-bleeding compared to the control group ( $p<0.001$ ). The mortality was significantly higher in the patients with chronic renal disease than in those without (17% vs. 4.7%) ( $p=0.015$ ). Risk factors identified to be associated with higher mortality rate in chronic renal disease with acute UGIH include male gender, presence of re-bleeding and higher requirement of pack cell transfusion.

### CONCLUSION

Peptic ulcer disease was the most common cause of AGIH in patients with chronic renal failure. In the patients with chronic renal disease, AGIH is usually severe with a higher mortality rate compared to the patients without renal disease.

## SPECTRUM OF ENDOSCOPIC FINDINGS IN PATIENTS REFERRED FOR SUSPECTED UPPER GASTROINTESTINAL BLEEDING

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Upper gastrointestinal bleed (UGIB) is a common emergency for referral for endoscopy. However, endoscopy may not reveal any findings that may account for the suspected UGIB. We present a review of the findings among patients suspected to have UGIB referred for endoscopy in our local setting. All upper GI procedures (n = 4,640) done between the periods January 2001 to December 2004 were reviewed. Significant findings were any ulcer diseases, portal hypertension related, malignancies, significant reflux diseases, polyps, vascular formations and any bleeding sources. Suspected UGIB accounted for 8.8% (n = 373) of the overall indications. The mean age of patients was  $49.5 \pm 20.8$  years old, significantly older than patients with other indications ( $45.5 \pm 16.2$  years old). The findings consisted of peptic ulcer disease (PUD, 47.5%), significant reflux oesophagitis (3.5%), varices (1.1%), Mallory-Weiss tears (1.1%) and malignancy (0.5%). The ulcers disorders consisted of duodenal ulcers only (DU, n = 100, 56.5%), gastric ulcers only (GU, n = 44, 24.9%) and both DU/GU (n = 33, 18.6%). 49.6% of procedures did not reveal any significant findings that may account for UGIB. The overall prevalence of *Helicobacter pylori* was 20.6%. Male and older patients (>50 years) were more likely to have significant findings on endoscopy (*p* values < 0.05). In conclusion, PUD is the main significant finding among patient with suspected UGIB. Male and older patients were more likely to have significant findings. Importantly, half of the patients with suspected UGIB did not have any significant findings.



## **A SERIES OF OESOPHAGEAL STENTING FOR MALIGNANCY IN 7 MONTHS: HUSM EXPERIENCE**

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The prognosis for patients with oesophageal cancer is dismal. The condition is usually diagnosed at an advanced stage and treatment goal for these patients is palliative. The use of self-expandable metal stent (SEMS) in the palliation of dysphagia in patients who have inoperable carcinoma of the oesophagus is well established.

This is an audit of our experience with endoscopic oesophageal stenting done in the Hospital Universiti Sains Malaysia (HUSM) in the first 7 months of 2007.

We reviewed all cases that underwent palliative endoscopic stenting procedure in HUSM done between January and July 2007. The demographic data, stage of dysphagia, location of tumour, histopathology, and stage of tumour and complications of procedure were reviewed.

There were 6 cases of oesophageal carcinoma for the period. There were 5 males and one female patient. The age ranges between 55 to 70 years. The tumour locations were noted to be at the lower oesophagus in 2 and cardio-oesophageal junction in 4. HPE showed squamous cell carcinoma in one and adenocarcinoma in 3, inconclusive in one and a carcinoma (not specified of type) in another. All patients were in stage IV and stented endoscopically. All patients were referred to Oncology Department for palliative treatment.

Stenting is a good method for palliative management in malignant oesophageal tumour. Complications are rare, therefore can be performed in hospitals with Endoscopy and Fluoroscopy facilities.

## CORRELATION OF BARRETT'S ESOPHAGUS AND THE PRESENCE H. PYLORI TO ADENOCARCINOMA OF ESOPHAGUS

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### INTRODUCTION

Barrett's esophagus (BE) is a known premalignant condition characterized with specialized intestinal metaplasia. However, in the Asian population, this fact may not be necessarily true.

### AIM

To review the prevalence of Barrett's esophagus in a multi racial population and possible risk factors.

### METHODS

A retrospective analysis of patients who underwent upper oesophagogastroscopy and were biopsied from the year 2004 till June 2007.

### RESULTS

A total of 616 biopsies were analyzed and 69 were confirmed BE histopathologically. The highest incidence of BE was among Indians (29 patients) and the lowest incidence was among the Malays (19 patients). The mean age of patients with Barrett's was 57 years old (SD 16.026, 95% CI 53.14 to 60.78). The youngest patient diagnosed was 15 years old and the oldest was 86 years old. Of the 381 patients who were found to have H.pylori, only 7 had BE. Of the 70 patients who had BE, 63 patients were tested negative for H. pylori. The incidence of BE among patients with H. pylori was 0.018 % ( $p < 0.0001$ ). A strong negative association was shown between H. pylori and BE [relative risk,  $R = 0.147$ ; 95% CI 0.072-0.298].

### DISCUSSION

Indians have the highest incidence of BE and H. pylori. This study suggests that H. pylori seems to be protective towards developing BE. Despite the high incidence BE in Indian population there seem to be no increase incidence of adenocarcinoma of esophagus in this group when compared to other races.

## LAPAROSCOPIC STAGING: AN INTEGRAL TOOL FOR STAGING GASTRIC CANCERS

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### INTRODUCTION

In Malaysia, laparoscopic staging is a rarely used as an additional investigating tool for gastric cancers. Growing role of multimodal treatment plan has contributed to the development of more accurate pre-operative staging for gastric cancer. Laparoscopic staging has been widely used for staging of intra-abdominal malignancies especially the regional cancer spread.

### METHOD

Retrospective evaluation of 20 laparoscopic staging done in Tuanku Ja'afar hospital from 2006-2007. Serosal infiltration, retroperitoneal fixation, ascites, metastasis to regional lymph node, peritoneum and liver were assessed.

### RESULT

Total of 20 laparoscopic staging were done from 2006-2007. The diagnostic accuracy of laparoscopy in determination of resectability was 91%. 5 patients were found to have unsuspected peritoneal metastasis during laparoscopic staging. Subsequently 6 patients were spared of laparotomy and only palliative feeding tube or gastrojejunostomy was done.

### CONCLUSION

Laparoscopic staging is a reliable technique to assess the resectability of gastric cancer. Laparoscopic staging enable accurate verification of liver and peritoneal metastasis and retroperitoneal tumour invasion in majority of the patients in comparison to CT. Laparoscopic staging has a significant impact on decision to operate in patients with locally advanced gastric cancer. Laparoscopic staging is an effective tool for diagnostic workup in combination with imaging modalities for gastric cancer patients.

## VARIATION OF LENGTH OF ESOPHAGUS AMONG DIFFERENT ETHNIC GROUP

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### BACKGROUND

Esophagus is a muscular tube extending from the lower border of the cricoid cartilage [at the level of C6], passes through the diaphragm at the level of T10 and ends in the abdomen at the cardiac orifice of the stomach at the level of T11.

### AIM

To measure the length of the esophagus using flexible fibregastroscope among the major ethnic groups in Malaysia.

### METHOD

This is a prospective data collection of 200 consecutive patients who presented to the endoscope suite from Aug 2006 to November 2006. . The esophagus is measured by taking the difference between the distance from the pyriform fossa and Oesophagogastric junction [OGJ] during OGDS using flexible gastroscope.

### RESULTS

The mean length of esophagus in this study was found to be 24.03cm (SD 2.21, 95% CI 23.72 to 24.34)), median of 24. The longest esophagus was measured 31cm and the shortest measurement was 15cm. The length of esophagus in male was 24.2cm in average [SD 2.28] and female was 23.3cm [SD1.47] with  $p < 0.0015$  and  $t = 3.222$ . The length of esophagus in Malay, Chinese and Indian were 23.86cm (SD 1.76, 95%CI 23.51-24.28), 23.76cm(SD 2.17, 95%CI 23.19-24.33) and 23.83cm(SD 2.06, 95%CI 23.34-24.32) respectively. Indian female was noted to have significantly shorter esophagus compared to others with a length of 22.91cm (SD 1.06, 95% CI 22.54 to 23.28)

### CONCLUSION

Indian female was found to have the shortest esophagus. More extensive study needed to co-relate this finding with the high incidence of Ca esophagus among female Indians. This study is of importance in the accurate localization of esophageal lesions especially in Malaysian population.



## **DOES THE ROCKALL SCORE PREDICT MORTALITY DURING HOSPITALIZATION IN UPPER GASTROINTESTINAL BLEED IN THE MALAYSIAN POPULATION OF SABAH?**

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### **BACKGROUND**

Upper gastrointestinal (GI) bleed is a common medical emergency in Malaysia. It is important to identify patients at high risk of rebleeding and mortality who will benefit most from intensive treatment. The Rockall score has been validated to predict mortality in the western population but data about its applicability in Malaysia is scarce.

### **OBJECTIVES**

To assess the applicability of the Rockall score in the prediction of mortality during hospitalization for the Malaysian population in Sabah with non-variceal upper GI bleed.

### **MATERIALS AND METHODS**

This is a cross-sectional study analyzing 488 patients with complete data at the Endoscopy Unit in the Queen Elizabeth Hospital, Kota Kinabalu with a diagnosis of non-variceal upper GI bleeding from January 2005 to December 2006. Medical records were analysed to determine the outcome during hospitalization. The Rockall scores are categorized into low (0-2), intermediate (3-7) and high (8-11) risk groups.

### **RESULTS**

During hospitalization, 12(2.46%) died and 476 patients survived. All the 224 patients with low Rockall score (0-2) survived. Out of 254 patients with intermediate Rockall score (3-7), 10(3.94%) died. 2(20%) of 10 patients with high Rockall score (8-11) died. Therefore patients within the higher category of Rockall score have a higher mortality rate during hospitalization.

### **CONCLUSION**

The Rockall score can be used to predict mortality during hospitalization in patients with upper GI bleed in the Malaysian population of Sabah.

## DOES THE ROCKALL SCORE PREDICT UPPER GASTROINTESTINAL REBLEED DURING HOSPITALIZATION IN THE MALAYSIAN POPULATION OF SABAH?

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### BACKGROUND

Upper gastrointestinal (GI) bleed is a common medical emergency in Malaysia. It is important to identify patients at high risk of rebleeding and mortality who will benefit most from intensive treatment. The Rockall score was designed to predict mortality and it can also be used to predict rebleeding in the western population. Data about the applicability of the Rockall score in Malaysia is scarce.

### OBJECTIVES

To assess the applicability of the Rockall score in the prediction of rebleeding during hospitalization for the Malaysian population in Sabah with non-variceal upper GI bleed.

### MATERIALS AND METHODS

This is a cross-sectional study analyzing 488 patients with complete data at the Endoscopy Unit in the Queen Elizabeth Hospital, Kota Kinabalu with a diagnosis of non-variceal upper GI bleeding from January 2005 to December 2006. Medical records were analysed to determine the outcome during hospitalization. The Rockall scores are categorized into low (0-2), intermediate (3-7) and high (8-11) risk groups.

### RESULTS

During hospitalization, 38(7.79%) patients had rebleed and 450 patients had no rebleed. 2(0.89%) out of 224 patients with low Rockall score (0-2) had rebleed. Out of 254 patients with intermediate Rockall score (3-7), 33(13.0%) had rebleed. 3(30%) in 10 patients with high Rockall score (8-11) rebled. Therefore patients within the lower category of Rockall score have a lower risk of rebleeding rate during hospitalization.

### CONCLUSION

The Rockall score can be used to identify patients with upper GI bleed who are at low risk of rebleeding during hospitalization in the Malaysian population of Sabah.

## CHRONIC ATROPHIC ANTRAL GASTRITIS WITH THE RISK OF METAPLASIA AND DYSPLASIA IN AN AREA WITH LOW PREVALENCE FOR *HELICOBACTER PYLORI*

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### INTRODUCTION

*Helicobacter pylori* gastritis is a known risk factor for gastric carcinogenesis. However in an area of low prevalence like Kelantan, the risk for developing metaplasia and dysplasia in patients with histological chronic atrophic gastritis is unknown.

### METHODOLOGY

A total of 234 records were reviewed and analyzed from January 2006 until December 2006. A p-value of less than 0.05 was significant and a kappa value between 0.4-1.0 was considered good agreement.

### RESULTS

The mean age was 53±1.0 years old. Male constituted 58.5% and Malay 79.1%. The commonest indication for endoscopy was dyspepsia (64%). The common causes of chronic gastritis were non-steroidal inflammatory drugs (NSAID), antiplatelets and previous peptic ulcer disease. Most patients were started on proton pump inhibitor or H2 receptor antagonist prior to endoscopy (74%). Chronic atrophic gastritis constituted 41% and non-atrophic gastritis 37%. There was a poor agreement between endoscopic and histological gastritis (Kappa value -0.05) where 22% of the histology was reported as normal. Chronic atrophic gastritis was significantly associated with risk of metaplasia especially when there was moderate atrophy on histology (p=0.07). Similarly the risk of dysplasia was highly significant with moderate atrophy on histology (p<0.001).

*Helicobacter pylori* was positive in 6.8% using rapid urease test (CLO) and histology. Both the risk of metaplasia (p=0.07) and dysplasia (p<0.001) were significantly associated with the status of positive *helicobacter pylori*.

### CONCLUSION

Despite the low prevalence of *helicobacter pylori*, the risk for developing metaplasia and dysplasia among patients with chronic gastritis and positive *helicobacter pylori* was significant. Moderate atrophy in chronic atrophic gastritis was associated with higher risk of metaplasia and dysplasia. There was a poor agreement between endoscopic and histological gastritis.

## THE USE OF SAVARY-GILLIARD BOUGIE DILATORS IN THE MANAGEMENT OF UPPER OESOPHAGEAL WEB

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### OBJECTIVE

Upper oesophageal web is predominantly a disease of middle-aged females. Many of these patients have Plummer Vinson syndrome (dysphagia, iron deficiency anaemia and upper oesophageal web). The outcome, complication rate and recurrence rate with Savary Gilliard dilatation is studied in 14 patients.

### METHODOLOGY

The case records of the 14 patients with upper oesophageal web presented to our endoscopy unit were manually searched and reviewed. Anaemia was defined as Hb level <11g% for female and <13.5g% for male.

### RESULT

Between January 2000 to June 2007, 14 patients had undergone Savary Gilliard dilatations for upper oesophageal webs. 10 females (71%) with a median age of 47.4yrs (range:29-77) and 4 males (29%) with a median age of 51 yrs (range: 20-76). 11 patients were Indians and 3 were Malays. All of them presented with dysphagia, one with additional symptom of odynophagia and one with symptoms related to anaemia. 70% of the female patients have anaemia with mean Hb level of 7.5g% ( 3.1-9.8) as compare to the remaining 30% with mean Hb of 12.4g% (11.4-13.5). For male, all of them have anaemia with mean Hb of 11.8g%( 9.4-13.1). All the patients with anaemia have low MCV and MCH. Plummer Vinson syndrome was diagnosed in 11 of the 14 patients with upper oesophageal web. Single dilatation was adequate in 10 patients (71%), 2 sessions in 3 patients (21%) and 6 sessions in 1 patient (7%). None of these dilatation sessions were associated with any major complication such as perforation.

### DISCUSSION AND CONCLUSION

Plummer Vinson syndrome is common in patients with upper oesophageal web. In our series, the major complaint that attracts the attention of patient is dysphagia and not related to anaemia. Endoscopic dilatation with Savary Gilliard dilator is a simple effective procedure with no major complication. Majority of patients need only a single dilatation session.



## **NON-CARDIAC CHEST PAIN (NCCP): PREVALENCE OF GASTROESOPHAGEAL REFLUX DISEASE (GERD) AND RESPONSE TO TREATMENT WITH ACID SUPPRESSIVE THERAPY IN AN ASIAN POPULATION**

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### **BACKGROUND**

Gastroesophageal reflux disease is thought to be the commonest cause of "non-cardiac chest pain". The use of proton-pump inhibitors resulting in improvement in chest pain symptom would support this causal association.

### **OBJECTIVES**

To determine the prevalence of gastroesophageal reflux disease in non- cardiac chest pain and the response of chest pain to proton-pump inhibitor therapy.

### **METHODS**

Patients with recurrent angina-like chest pain and normal coronary angiogram were recruited. The frequency and severity of chest pain were recorded. All patients underwent esophagogastroduodenoscopy and 48-hour Bravo ambulatory pH monitoring before receiving rabeprazole 20 mg bd for 2 weeks

### **RESULTS**

The prevalence of gastroesophageal reflux disease was 66.7% (18/27). The improvement in chest pain score was significantly higher in reflux compared to non- reflux patients ( $p=0.006$ ). The proportion of patients with complete or marked/moderate improvement in chest pain symptom were significantly higher in patients with reflux (15/18, 83.3%) compared to those without (1/9, 11.1%) ( $p<0.001$ ).

### **CONCLUSION**

The prevalence of gastroesophageal reflux disease in patients with "non-cardiac chest pain" was high. The response to treatment with proton-pump inhibitors in patients with reflux disease but not in those without underlined the critical role of acid reflux in a subset of patients with "non-cardiac chest pain".

### **KEYWORDS**

Gastroesophageal reflux disease (GERD), non-cardiac chest pain (NCCP), proton pump inhibitor (PPI), Bravo pH monitoring, Asian patients.

## HIGH DOSE RABEPARAZOLE DUAL THERAPY WITH AMOXICILLIN AS RESCUE TREATMENT FOR HELICOBACTER PYLORI TREATMENT FAILURES

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### BACKGROUND

Helicobacter pylori treatment failures are increasing in prevalence and are usually difficult to treat. The difficulty of treatment increases with each successive treatment failure. The high dose PPI dual therapy have been previously used as first line therapy for H.pylori and has been recently been used as a rescue therapy as well.

### OBJECTIVES

To determine the overall success with a Proton Pump Inhibitor (PPI) high dose dual therapy with amoxicillin for 2 weeks.

### METHODS

Patients who have failed a single course of 1 week PPI triple therapy. Presence of HP was confirmed on urease biopsy test and histology and/or C13 urea breath test (UBT). Patients were treated with rabeprazole (Pariet, Eisai HHC, Tokyo, Japan) 20mg tds, amoxicillin (Ospamox, Biochemie, Austria) 1g tds for 2 weeks. Treatment success was determined with the C13UBT performed at least 4 weeks after completion of therapy

### RESULTS

34 patients who failed primary 1 week PPI triple therapy have been recruited for the study so far. Out of 29 patients who received treatment, 20 had successful eradication while 9 patients failed treatment. 2 patients dropped out from the study- 1 patient developed allergy to the study medications and the other defaulted follow-up. Compliance to medications was good. Eradication success: Per Protocol analysis was 69.0% (95% C.I.: 49.2-84.7%) and Intention-to-Treat analysis- 64.5% (95% C.I.: 45.4-80.8%) .

The treatment regimen was highly tolerable. 4 patients (13.8%) complained of diarrhea. No other side effects were reported.

### CONCLUSION

The high dose PPI dual therapy is modestly successful as first line rescue therapy in H.pylori treatment failures. The drugs used in this treatment is widely available and inexpensive.

## TWO SEQUENTIAL THERAPIES AS RESCUE TREATMENT FOR HELICOBACTER PYLORI TREATMENT FAILURES

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### BACKGROUND

*Helicobacter pylori* treatment failures are increasing in prevalence and are usually difficult to treat. The difficulty of treatment increases with each successive treatment failure. The choice of antibiotics for the rescue therapies are based on the virtual absence of bacterial resistance to amoxicillin and the low minimum inhibitory concentration of levofloxacin, which is a relatively new antibiotic.

### OBJECTIVES

To determine the overall success with 2 rescue therapies used sequentially: 1. Proton Pump Inhibitor (PPI) high dose dual therapy with amoxicillin (RA) 2. PPI triple therapy with amoxicillin and levofloxacin for 2 weeks (RAL) both for 2 weeks.

### METHODS

Patients who have failed a single course of 1 week PPI triple therapy. Presence of HP was confirmed on urease biopsy test and histology and/or C13 urea breath test (UBT). Patients were treated with rabeprazole (Pariet, Eisai HHC, Tokyo, Japan) 20mg tds, amoxicillin (Ospamox, Biochemie, Austria) 1g tds for 2 weeks and subsequent failures received sequentially rabeprazole 20mg bd, amoxicillin 1g bd and levofloxacin (Dai-ichi, Tokyo, Japan) 500mg bd for 2 weeks. Treatment success was determined with the C13 UBT performed at least 4 weeks after completion of therapy

### RESULTS

Out of 29 patients who received treatment with the high dose dual therapy (RA), 20 had successful eradication while 9 patients failed treatment. All 9 received the second rescue therapy (RAL). Of the 6 who had returned for assessment so far all were negative for *H.pylori* giving a 100% treatment success rate.

Of 26 treatment failures, 100% success rate was achieved with 2 sequential rescue treatment regimens.

### CONCLUSION

A treatment strategy with 2 sequential rescue therapies appear highly promising in the eventual successful eradication of *H.pylori* treatment failures.

## CLINICO-EPIDEMIOLOGY PATTERN OF UPPER GASTROINTESTINAL BLEEDING IN HOSPITAL RAJA PEREMPUAN ZAINAB II (HRPZ II), KOTA BHARU, KELANTAN

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### INTRODUCTION

Upper gastrointestinal bleeding is a medical emergency with significant morbidity and mortality (1). The analysis of clinical and endoscopic factors permit accurate risk assessment, rational treatment planning and improves outcome.

### OBJECTIVE

The aim of this study is to determine the clinico-epidemiology pattern of patients with endoscopically proven upper GI bleeding in HRPZ II, Kota Bharu, Kelantan.

### METHODOLOGY

- A retrospective analysis of all medical patients with endoscopically proven upper GI bleeding in HRPZ II from January 2004 to December 2006 was undertaken.
- The medical records of patients were traced and reviewed.
- Data collected were entered into SPSS version 11.5 for analysis.

### RESULTS

A total of 154 patients were referred for suspected upper GI bleeding. 7 patients were excluded due to severely deficient clinical data in their medical records. The remaining 147 patients were analysed and 8 patients were further excluded due to absence of endoscopic evidence of upper GI bleeding. We identified 139 patients with endoscopically proven upper GI bleeding.

61.2% (90/147) of the patients were males. The mean age was 60.8 years (range 14 to 94 years). 91.2% (134/147) were Malays and 8.8% were Chinese (13/147). The commonest presenting symptoms and signs included melena 68.7% (101/147), hematemesis 27.2% (40/147) and anemia 8.1% (12/147). 70.1% (103/147) had upper endoscopy done within 12 hours of referral, 28.6% (42/147) within 12 to 24 hours and 1.4% (2/147) after 24 hours of referral.

Acute non-variceal bleeding constituted 80.5 % (112/139) of the cases while the remaining 19.5 % (27/139) were due to acute variceal upper GI bleeding. The commonest aetiology of acute non-variceal bleeding were peptic ulcer bleeding 77.6% (108/139), gastric malignancies 0.7% (1/139), gastric antral vascular ectasia 0.7% (1/139) and severe ulcerative reflux esophagitis 1.4% (2/139). Bleeding esophageal and fundal varices constituted 15.8% (22/139) and 3.5% (5/139) respectively.

Duodenal ulcers were reported in 51.8% (56/108), gastric ulcers in 30.5% (53/108) and 17.7% (19/108) had both duodenal and gastric ulcers. 50% (54/108) of the reported bleeding peptic ulcer disease were Forrest class 1b, 20.4% (22/108) were Forrest 2a, 25% (27/108) were Forrest 2b and 4.6% (5/108) were Forrest 2c.

The reported precipitating factors for upper gastrointestinal bleeding were use of non-steroidal anti-inflammatory drugs in 4.3% (6/139), coagulopathy due to severe sepsis in 1.4% (92/139), use of heparin for unstable angina in 1.4% (2/139) and end stage renal failure in 2.8% (4/139). 89.9% (125/139) were unknown.

The mean number of days of hospitalisation was 4.9 days. Upper gastrointestinal bleeding was treated endoscopically in 95.6% (133/139). Surgical interventions were needed in 4.4% (6/139) of the patients.

51.7% (58/112) of acute non-variceal bleeding were treated with at least 2 endoscopic modalities endoscopic variceal ligation and histoacryl injections were applied to all bleeding esophageal and fundal varices respectively with successful outcome. Infusion of proton pump inhibitor was given for a minimum of 3 days in 96.2% (104/108) of the patients.

The rockall's score were available in 127 patients of which 44% (56/127) of them presented with a rockall's score of less than 3. Only 0.7% (1/127) was above the score of 8.

3 deaths were reported due to upper gastrointestinal bleeding.

### CONCLUSION

Upper gastrointestinal bleeding remains a medical emergency in our hospital. Malay constituted the main ethnic group in our hospital. Peptic ulcer disease is the main cause of upper gastrointestinal bleeding.



## INDICATIONS, DIAGNOSIS AND COMPLICATIONS IN PATIENTS UNDERGOING LIVER BIOPSY IN HOSPITAL TENGKU AMPUAN AFZAN, KUANTAN, PAHANG: PROSPECTIVE DATA OVER 7 MONTHS

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### OBJECTIVES

To evaluate the baseline characteristics, diagnosis and result of the liver biopsy and complication rate of the liver biopsy performed at our centre.

### METHODS

This is a prospective study of patients undergoing liver biopsy in Hospital Tengku Ampuan Afzan, Kuantan, Pahang between December 2006 and June 2007. Liver biopsy was performed under ultrasound guidance by the radiologist using the 18- and 20-gauge needle. Histological diagnoses were determined using the histological activity index (HAI) scoring system. Immediate and delayed complications were recorded.

### RESULTS

13 males and 2 females underwent liver biopsy during this period. The indications for liver biopsy could be categorized to 3 main groups: chronic hepatitis B infection with/out elevated alanine transaminase, ALT (Group A), chronic hepatitis C infection with/out elevated ALT (Group B) and non-hepatitis B/C infection with elevated ALT (Group C). There are 7 patients in Group A, 5 of them had elevated ALT. Group B consisted of 7 patients and all of them had an elevated ALT. One patient was in Group C, the liver biopsy showed severe steatohepatitis and he was diagnosed with non-alcoholic steatohepatitis (NASH). All patients in Group A and B has had their hepatitis B viral DNA (HBV DNA) and hepatitis C viral RNA (HCV RNA) taken respectively, except for 2 patients in Group A and one patient in Group B. The viral count was more than 10,000 copies/ml, except for two patients (HBV DNA <1400 copies/ml). The liver histology showed that 5 patients in Group A have a grade of  $\geq 5$  (range 5 to 9) while the stage of fibrosis for all of them was  $\leq 3$ . On the other hand 5 patients in Group B have a grade of  $\geq 5$  (range 6 to 11) with only 2 patients staged to be  $\geq 3$ . There were no complications recorded in any patients during or after the procedure.

### DISCUSSION AND CONCLUSIONS

Patients with chronic hepatitis B and C infection showed a mild to moderate liver damage. The rate of progression of hepatitis C infection was more severe than hepatitis B infection. Liver biopsy under ultrasound guidance is a safe procedure for patients.

## CHRONIC HEPATITIS C INFECTION IN PATIENTS WITH END-STAGE RENAL DISEASE: A COMPARISON WITH PATIENTS WITHOUT RENAL DAMAGE

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### BACKGROUND

CHC is common among patients with ESRD on regular hemodialysis. However, few data are available on genotype, viral titer, liver enzyme and histological changes in these patients relative to CHC patients with normal renal function.

### OBJECTIVES

To compare ESRD with nonESRD patients with CHC in terms of genotype, viral load, ALT and liver histology (necroinflammatory activity, fibrosis and steatosis).

### METHODOLOGY

This was a cross-sectional retrospective comparative study conducted at Hospital Alor Star involving ESRD and nonESRD patients with CHC who underwent USG-guided liver biopsy (2004-2006). All patients who had blood test for viral load (HCV RNA PCR, iu/mL) & genotyping and ALT (mmol/L) during that time, and fulfilled the criteria were recruited. Viral load was grouped into: Low VL (<5 log<sub>10</sub>) and High VL (≥5 log<sub>10</sub>), Genotype into: G1 and G2,3,4 and ALT into: Normal ALT and Elevated ALT. All liver histology was scored by using Ishak scoring system. Necroinflammatory activity was grouped into: Mild Activity (G0-6) and Mod/Severe Activity (G7-18), fibrosis into: Mild Fibrosis (S0-2) and Mod/Severe Fibrosis (S3-6), and steatosis into: Mild Steatosis and Mod/Severe Steatosis.

### RESULTS

155 patients with CHC were screened and 78 who fulfilled the criteria were recruited (28 ESRD, 50 non-ESRD). G1 was more common in ESRD (81.5% vs. 32.5%; OR 9.138; p<0.005). ESRD had higher proportion of HVL (81.5% vs. 56.1%; OR 3.443; p<0.05), lower ALT level (36 vs. 71 mmol/L; p<0.005) and higher proportion of NALT (60.7% vs. 22.9%; OR 5.198; p<0.005). In terms of activity, ESRD had higher proportion of MA (92.9% vs. 59.2%; OR 8.966; p<0.005). In terms of fibrosis, there was higher proportion of MF in ESRD (85.7% vs. 58%; OR 4.345; p<0.05). Subanalysis showed higher proportion of NALT in MA (49.1% vs. 9.1% in SA; OR 9.630; p<0.005); and MF (44.2% vs. 20.8% in SF; OR 3.014; p<0.05) There was no significant association between genotype and activity or fibrosis; and also no significant association between viral load and activity or fibrosis.

### CONCLUSIONS

This study shows that Genotype 1 was more common among CHC patients with ESRD in Hemodialysis Unit, Hospital Alor Star. These patients have higher viral titer, normal ALT, less active and less progressive CHC than patients with normal renal function.

### ABBREVIATION

HVL- high viral load, NALT- normal ALT, MA- mild activity, MF- mild fibrosis, OR- odd ratio

## GAMMA GLUTAMYL TRANSFERASE ACTIVITY IN GILBERT'S DISEASE

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### INTRODUCTION

Gilbert's disease (GD), an isolated non-haemolytic unconjugated hyperbilirubinaemia occurring in 8% of the population, is diagnosed by estimating serum unconjugated bilirubin level. GD is under diagnosed leading to inappropriate expensive and invasive investigation. A patient with congenital hyperbilirubinaemia was noted to have loww Gamma Glutamyl Transferase (GGT) activity. A prospective study has been undertaken to dertermine if low GGT is a marker for unconjugated hyperbilirubianemia. The GGT and bilirubin results of random blood samples sent for liver function tests to the Clinical Biochemistry Department, University College Hospital , Galway, Ireland were abstracted and entered into a database.

### RESULTS

Results were stratified according to bilirubin level (mmol/l), group 1) 20-10, n=163- normal liver biochemistry and propabale GD;group 2) 20-100, n= 44- abnormal liver biochemistry; group 3) 16-17, n= 113;group 4) 3, n= 216. The following GGT activities [U/l mean (SD)] were found: Group 1: 18.7 (12), Group 2:120 (335), Group 3: 35(104), Group 4:25(98). GGT in group 1 is significantly lower than all other groups. G1:G2,G3,G4 p<0.002.

### CONCLUSION

Thus, low GGT activity is associated with isolated hyperbilirubinaemia.

## AUTOIMMUNE HEPATITIS IN BRUNEI DARUSSALAM

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### INTRODUCTION

Autoimmune Hepatitis (AIH) is an inflammatory process mainly involving the hepatocytes that is self perpetuated by an immune reactions against normal liver cell components. AIH is more common among Caucasians compared to Asians and have been associated with HLA DR3 and DR4 status. We present our experience with AIH in Brunei Darussalam.

### METHODS

All patients followed up in RIPAS hospital for AIH were identified from the clinic and pathology registers and retrospectively reviewed. Diagnosis of AIH was based on internationally accepted criteria.

### RESULTS

A total of 16 patients (female, 75%) were identified and 69% were diagnosed in the last three years. The median age at diagnosis was 52 years old (range 25 to 75). Majority (87.5%) had co morbid conditions and five (31%) had associated autoimmune disorders (Grave's disease 2, Rheumatoid Arthritis 2 and SLE 1). The median delay from first symptoms or abnormalities noted to diagnosis was 57 days (range 18 to 515). Forty four percent was symptomatic at presentations (icteric hepatitis 31% and decompensated liver disease 13%) and the remaining patients had abnormal liver function test. Liver cirrhosis was present at diagnosis in 31% and a further 44% had advanced fibrosis (stage III). Nine patients had HLA typing; 2 (22.2%) positive for HLA DR3 and 3 positive for DR4 (33.3%). Two patients (12.5%), both female died after diagnosis of AIH; one 66 days of progressive liver disease (stage III fibrosis) and T cell lymphoma in the other patients with cirrhosis. Complete response to treatment was seen in 71%.

### CONCLUSIONS

AIH is not uncommon in our local setting and majority of our patients have advanced liver diseases at presentations. HLA associations were only seen in a small proportion of our patients. Responses to treatment are comparable to reported data.



## PREDICTOR FACTOR OF PATIENT SELECTION FOR HEPATITIS C TREATMENT IN KUALA LUMPUR HOSPITAL

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### OBJECTIVE

Funding for effective Hepatitis C treatment is limited. This study aims to determine the predictor factor of patient selection for the treatment.

### METHODOLOGY

All the case records of patients with hepatitis C on follow-up at the HKL Gastroenterology and Hepatology clinic were studied. Univariate analysis is performed to identify the factors that favour the patient selection for treatment. The differences between study groups were tested using the Student's t-test and chi-square test when appropriate. Statistical significance was established at  $p < 0.05$ .

### RESULT

A total of 327 patients; 244 male (74.6%) and 83 (25.4%) female, with median age of  $44 \pm 12.6$  years (range:14-78). 53.5% were Malays, followed by Chinese (32.7%), Indians (11%) and others (2.8%). 93% were isolated Hepatitis C cases without co-infection with HIV or Hepatitis B. 36.1% have their hepatitis C genotype confirmed and out of these, 60.1% were genotype 3 and 36.4% were of genotype 1. In the remaining, 3 belong to genotype 2 and 1 genotype 4. 74 patients (22.6%) were treated for hepatitis C; conventional interferon (2 patients), conventional interferon plus ribavirin (19) and pegylated interferon plus ribavirin (53).

### UNIVARIATE ANALYSIS OF PREDICTOR FACTORS FOR THE SELECTION OF PATIENT FOR TREATMENT

	On Treatment		p value
	No	Yes	
Age (mean year)	42.91	41.81	0.51
Gender			0.23
male, n (%)	192 (78.7)	52 (21.3)	
Female, n (%)	60 (72.3)	23 (27.7)	
Race			0.07
Malay, n (%)	142 (81.1)	33 (18.9)	
Chinese, n (%)	81 (75.7)	26 (24.3)	
Indian, n (%)	22 (61.1)	14 (38.9)	
Other, n (%)	7 (77.8)	2 (22.2)	
Route of transmission			<0.001
Unknown, n (%)	64 (83.1)	13 (16.9)	
IVDU, n (%)	82 (88.2)	11 (11.8)	
Sexual, n (%)	30 (83.3)	6 (16.7)	
Blood / blood product transfusion, n (%)	63 (58.9)	44 (41.1)	
Haemodialysis, n (%)	13 (92.9)	1 (7.1)	

### CONCLUSION

With limited resources in government hospital, origin of hepatitis C transmission secondary to blood or blood product transfusion is the major predictor of selection for hepatitis C treatment.

## AMINOTRANSFERASE CHANGES IN DENGUE INFECTION: AN ANALYSIS OF 162 CASES IN PAHANG, MALAYSIA

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### INTRODUCTION

Dengue fever is an endemic infective disease in Malaysia. Hepatic derangement is a common manifestation of dengue fever. The aim of this paper was to study the behaviour of liver enzymes in dengue infection and to investigate its associations with clinical manifestations and laboratory abnormalities.

### METHODS

A retrospective study was carried out to study 162 serologically confirmed cases of DF admitted to Hospital Tengku Ampuan Afzan, Kuantan over 18-month period from October 2004 to March 2006. Diagnosis of dengue infection was based on World Health Organization's (WHO) criteria whereby a positive serology and presence of classical symptoms are essential to make a confirmed diagnosis. Serological diagnosis of dengue infection was based on either in-house Enzyme Immunoassay (EIA) or rapid commercial qualitative immuno-chromatographic tests manufactured by Panbio (Brisbane, Australia). Positive serology was defined as presence of either IgM or IgG or both. Secondary infection was defined as presence of IgG, with or without presence of IgM. Degree of liver derangement were classified into 4 categories- normal, mild, moderate and severe depending on the degree of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) elevation.

### RESULTS

Among the 162 serologically confirmed dengue cases, 13 (8.0%) had severe hepatitis, 100 (61.7%) had moderate hepatitis, 33 (20.4%) had mild hepatitis and 16 (9.9%) had normal liver enzymes. The median ALT value was 92.5 (46.0-151.3) U/l and the median AST value was 146.0 (83.0-258.0) U/l. The mean age of dengue patients was 31.9 (13.0) years. Among these patients, 77 (47.5%) were female; 124 (76.5%) of them were Malay. We found no significant association between degree of hepatitis and clinical signs and symptoms, except for hypotension on admission ( $p=0.02$ ). There were significant associations between moderate to severe hepatitis with secondary dengue infection ( $p=0.01$ ) and activated partial thromboplastin time (APTT) ratio of more or equal to 1.25 ( $p=0.02$ ). We found a weak but significant correlation between AST value with platelet count ( $r=0.20$ ,  $p=0.01$ ) and APTT ratio ( $r=0.26$ ,  $p<0.01$ ). On linear regression analysis, we identified the regression coefficient between these factors, as summarized in this equation

$$\text{AST} = 135.7 + (-0.337) \text{ platelet count (X10}_6\text{/mm}^3\text{)} + 57.1 \text{ APTT ratio}$$

We could not establish a positive association between degree of liver impairment and development of dengue haemorrhagic fever.

### CONCLUSION

Liver impairment is a common occurrence in dengue infection. The degree of aminotransferase elevation is significantly associated with hypotension, secondary infection, prolonged APTT ratio  $>1.25$ . AST has a significant negative correlation with platelet count and a positive correlation with the APTT ratio.

## TREATMENT OUTCOMES IN CHRONIC HEPATITIS C AMONG PATIENTS WITH HEMOPHILIA

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### OBJECTIVE

Patients with Haemophilia are living more productive lives with better care and treatment. The complications of Chronic Hepatitis C are an emerging concern in this group of patients and needs to be addressed. Appropriate treatment will decrease the morbidity and mortality associated with chronic hepatitis C. This study aims to review the treatment outcomes of chronic hepatitis C in patients with Haemophilia.

### METHODOLOGY

All the case records of patients with chronic hepatitis C and Hemophilia on follow-up at the Kuala Lumpur Hospital Gastroenterology and Hepatology clinic were studied.

### RESULTS

A total of 45 patients with Haemophilia: 44% were Malays, followed by Chinese (44%) and Indians (12%) were on follow up for chronic hepatitis C. Among them 64.4% had their hepatitis C genotype confirmed and out of these, 62.1% were genotype 3, 31.0% were genotype 1 and 6.9% were genotype 2. Among the 45 patients, 26 (57.8%) were treated. 69.2% had combination treatment with pegylated interferon and ribavirin, 27% had combination treatment with conventional interferon and ribavirin. The remaining patient (3.85%) had treatment with conventional interferon. 20 patients (77%) completed treatment and 17/20 (85%) achieved end of treatment response (ETR). 14 patients (82.3%) went on to achieve sustained virological response. 2 patients are awaiting for their SVR assessment and 1 patient (5.9%) failed to achieve SVR.

### CONCLUSION

Treatment of chronic hepatitis C in Haemophilia patients have excellent outcome. Haemophilia should not be a negative factor when considering treatment for Hepatitis C.

## BILE CULTURE IN ERCP PATIENTS – WHAT'S GROWING?

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### INTRODUCTION

There have been several international studies that looked into the bile culture, sensitivity and resistance (C&S) patterns of patients undergoing endoscopic retrograde cholangiopancreatography (ERCP). Bile C&S determination may be important in deciding the appropriate antibiotic therapy especially in septic patients, in light of increasing resistance patterns observed worldwide. We collated data with respect to sensitivity and resistance patterns in our centre.

### AIM

A preliminary evaluation of the culture, sensitivity and resistance patterns of bile in patients undergoing ERCPs in Kuala Lumpur Hospital.

### METHOD

A prospective analysis of bile culture with sensitivity and resistance patterns. Patients undergoing ERCP from 1<sup>st</sup> June 2006 to 30<sup>th</sup> June 2007, had bile aspirated after cannulation. At least 5 cc of bile was placed in sterile plain culture bottles and sent immediately to the microbiology laboratory for C&S testing. The decision to aspirate bile for testing was left to the discretion of the endoscopist.

### RESULTS

A total of 101 ERCP patients during the period had bile C&S reports available out of whom 54 (53.4%) were males and 47 (46.6%) females. There were 64(63.4%) Malays, 19 (18.8%) Chinese, 13 (12.9%) Indians and 5 (5%) from other ethnic groups with a median age of 52 (range: 19-89) years. Laboratory parameters – the mean blood white cell count was  $11 \pm 5.3$  (range: 3.6 – 29.2)  $\times 10^9$ /litre with 41 (40.6%) patients having leucocytosis; mean total blood bilirubin was  $88.7 \pm 127$  (range: 1-674)  $\mu\text{mol/L}$  (53.5% with bilirubin  $>21 \mu\text{mol/L}$ ); mean blood alkaline phosphatase (ALP) level was  $269 \pm 245$  (range: 28 -1745) u/L (79.2% with ALP levels  $>119$  u/L) while mean blood alanine aminotransferase (ALT) level was  $116 \pm 138$  ( range: 3-817) u/L (63.4% patients with ALT  $> 42$  u/L) levels. Clinical cholangitis, (defined as systemic signs and symptoms with jaundice, leucocytosis and appropriate radiological signs) was the diagnosis in 13 of 101 (12.9%) patients.

There were 28 (27.7%) patients with positive bile cultures. The most common organism isolated was *E. coli* in 10 out of 28 (35.7%) patients, followed by *P. aeruginosa* (6 patients), *Enterococcus* (5), *Enterobacter* (2), *Candida* (2) and 1 each *Klebsiella*, *Salmonella* and *Citrobacter*. Only 4 patients with clinical cholangitis had positive cultures (namely *E. coli*, *P. aeruginosa*, *Enterobacter* and *Enterococcus*). Interestingly 24 patients without clinical cholangitis had a positive culture. Mixed growth was seen in 32 patients and the rest (60) had negative cultures. A total of 8 of the 10 *E.coli* isolates were sensitive to all antibiotics tested including ampicillin while 2 exhibited extended spectrum beta lactamase (ESBL) activity, 5 *Paeruginosa* isolates were sensitive to 3<sup>rd</sup> and 4<sup>th</sup> generation cephalosporins and aminoglycosides, the single *Klebsiella* isolate exhibited ESBL activity whereas the others were 'friendly' organisms sensitive to common antibiotics. Using multivariate analysis there was no correlation between positive bile cultures and age, gender and race as well as bilirubin, ALT, ALP and WBC levels.

### CONCLUSIONS

The majority of organisms isolated in our series were *E.coli*, *Paeruginosa* and *Enterococcus* ; most of these were sensitive to standard antibiotics. The low rate of isolation in the clinical cholangitis group may be due to initiation of antibiotics in hospital prior to ERCP or to antibiotic treatment prior to admission. Taking bile for C&S, irrespective of presence of clinical cholangitis, may prove useful in deciding the requirement for antibiotics. There appears to be a disproportionately high incidence of cultures with mixed growth indicating possible contamination of samples. Inoculation of bile into blood culture bottles may increase the yield. We are currently embarking on a larger study, including correlation with blood cultures, to obtain a better picture of our bile culture and sensitivity patterns.



## RETINAL CHANGES IN END STAGE RENAL FAILURE AND CHRONIC HEPATITIS C ON PEGINTERFERON $\alpha$ -2B TREATMENT

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Retinopathy is a recognized side effect of interferon therapy and is characterized by retinal haemorrhages, cotton wool spots, and macular oedema. However, there's no previous study on the effect of interferon on end stage renal failure patient.

### AIM

To assess the effect of Peginterferon  $\alpha$ -2b treatment on the retina of chronic Hepatitis C patients with end stage renal failure.

### METHODS

20 patients with end stage renal failure and chronic Hepatitis C were recruited from 1<sup>st</sup> Jan 2005 to 31<sup>st</sup> December 2006. Retinal image were taken before and 1 year post treatment by Ophthalmologists to compare the changes.

### RESULTS

16/17 patients followed up showed no new changes to their retina. Retinal haemorrhage was seen in 1 patient.

(1 patient with co morbidity of ischemic heart disease died of MI during follow up, 2 patients left the area and were lost in follow up.)

### CONCLUSION

Peginterferon  $\alpha$ -2b seems to be safe for patients with end stage renal failure as no new changes were seen in 16/17 patients being followed up. However larger study is needed to have a statistically significant result.

## DISEASE BURDEN OF HEPATITIS C AMONG HAEMOPHILIA PATIENTS

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### OBJECTIVE

In the majority of patients with Haemophilia, hepatitis C is acquired through blood product transfusions. This study aims to assess the disease burden of hepatitis C among Haemophilia patients.

### METHODOLOGY

Review of data from the National Blood Bank.

### RESULTS

There are 878 patients with Haemophilia registered with the National Blood Bank in Malaysia. Among the 878 patients, 113 (12.9%) patients have a positive serology for Hepatitis C and 8 out of 878 (0.9%) were positive for hepatitis B surface antigen. The mean age for patients with Haemophilia and hepatitis C is  $34 \pm 10$  (range: 18-66) years with 46.9% Malays, 42.5% Chinese and 10.6% Indians with 111 males and 2 females. 83.2% of them (94/113) were 45 years of age or younger. A total of 52.2% (59/113) had their hepatitis C genotype confirmed and out of these, 50.8% were genotype 3, 40.7% were genotype 1 and the remaining 5 patients (8.5%) were genotype 2. Comparing this group of patients with patients with hepatitis C on follow up at the Gastroenterology and Hepatology clinic in Kuala Lumpur Hospital, the rate of genotype 1 appears statistically higher in the haemophiliac group compared to genotype 3 despite the latter being the predominant genotype in both groups. ( $\chi^2 > 0.01$ )

### CONCLUSION

Hepatitis C is the most common hepatotropic virus acquired through blood products among Haemophiliac patients. The majority of them have genotype 3 and are below the age of 45 hence good candidates for successful treatment. The proportion of genotype 1 among Haemophiliacs is significantly higher compared to the non-Haemophiliac patients with hepatitis C.

## USEFULNESS OF ABDOMINAL ULTRASOUND FINDINGS AS PREDICTORS OF LARGE OESOPHAGEAL VARICES (LOV) AMONGST CIRRHOTICS WITHOUT A HISTORY OF VARICEAL HEMORRHAGE

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### INTRODUCTION

The gold standard of screening of esophageal varices amongst cirrhotics without previous variceal hemorrhage is upper gastrointestinal endoscopy. Non invasive markers like laboratory parameters and abdominal ultrasound findings have been evaluated as predictors of esophageal varices.

### OBJECTIVES

To identify parameters of abdominal ultrasound that are predictive of LOV amongst cirrhotic patients without a history of variceal hemorrhage.

To compare platelet count with platelet count/spleen size index as predictors of LOV.

### METHODS

This cross-sectional study recruited and reviewed records of all our cirrhotic patients without history of variceal bleeding who underwent endoscopic surveillance and abdominal ultrasound examination. Patients with gastric varices, portal vein thrombosis, hepatoma, and those on beta blockers were excluded. Questionnaires with demographic data, biochemical parameters, abdominal ultrasound and first endoscopy results were recorded. Large OV was defined as Grade II or larger OV. Statistical significance was set as  $p < 0.05$ .

### RESULTS

Seventy five patients from Jan 2005 to Mar 2007 were recruited. Predictors of LOV from univariate analysis are platelet count  $< 100 \times 10^9/L$ , albumin  $< 35g/L$ , male gender, PT  $> 15.2s$  and platelet count/spleen size index  $< 9 \times 10^{11}$ . Multivariate analysis only albumin  $< 35g/L$  and male gender were predictive of LOV. Abdomen ultrasound findings of spleen size  $> 13$  cm and portal vein diameter  $> 12mm$  were not predictive of LOV.

The sensitivity of platelet count  $< 100 \times 10^9/L$  and platelet count/spleen size index  $< 9 \times 10^{11}$  in predicting LOV were 69.2% and 84.6% respectively. The specificity of platelet count  $< 100 \times 10^9/L$  and platelet count/spleen size index  $< 9 \times 10^{11}$  in predicting LOV were 61.3% and 48.4% respectively.

### CONCLUSION

From our series, spleen size  $> 13cm$  and portal vein size  $> 12mm$  were not helpful in predicting LOV. However, platelet count/spleen size index may increase the sensitivity in predicting LOV compared with platelet count alone.

## CHARACTERISTICS OF CROHN'S DISEASE IN SARAWAK

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### INTRODUCTION

The prevalence of Crohn's Disease (CD) in the United Kingdom may be as high as 147 cases per 100 000 persons and the incidence is increasing in developed countries<sup>1</sup>. The incidence and prevalence of Crohn's Disease in Asia ranges from 0.5-1.0 per 100 000 person per year, and 3.6 to 7.7 per 100 000 persons<sup>2</sup>. The clinical features and the presentation of Crohn's Disease in Asia may be different compared to Western countries because of differences in environmental and genetic background. Infectious diseases including intestinal tuberculosis are common in Asia; hence adding to the dilemma in the diagnosis and treatment of patients with Inflammatory Bowel Disease (IBD).

### AIM

The aim of this study is to examine the characteristics of Crohn's Disease (CD) in Sarawak.

### METHODS

The data of 13 patients with Crohn's Disease in Sarawak were analysed retrospectively. We studied the demographic characteristics and clinical presentation of all these patients with Crohn's Disease.

### RESULTS

The basic demographic data for the patients are as follows: The male: female ratio was at 8:5. The mean and the median age at presentation were 42.2 and 46 years (range 18-69). Ethnic group distribution was as follows: Malay 4 (30.8%), Chinese 8 (61.5%), Bidayuh 1 (7.7%). Base on the original Vienna's classification, the location of the disease included: ileo-colonic 5 (38.5%), terminal ileal disease 6 (46.2%), colon only 1 (7.7%), upper gastrointestinal (7.7%). 5 patients (38.5%) had penetrating disease on presentation, 3 (23.1%) had stricturing disease and 5 (38.5%) had non-penetrating, non-stricturing disease. 1 patient had extra-intestinal manifestations in the form of arthritis on presentation. 9 (69.2%) were diagnosed only after surgery, based on the macroscopic appearance of the lesion and supportive histological evidence. The remaining 4 patients were diagnosed with Crohn's Disease based on a combination of clinical features, histological evidence from ileo-colonoscopy and radiological findings. 9 out of 13 patients were diagnosed in the past 5 years.

### DISCUSSION

The median age of diagnosis of Crohn's Disease in Sarawak is 46 years old, which is older than the western countries. Most of the patients were Chinese although they constituted less than a third of the Sarawak population. Over two third of the patients were only diagnosed after surgery. The late diagnosis of most patients suggested a lack of awareness of the disease amongst doctors and the perceived rareness of the disease amongst Asians. The true incidence of Crohn's disease amongst Sarawakians was probably significantly higher than what was generally perceived.

### CONCLUSION

We concluded that Crohn's Disease in Sarawak was usually diagnosed late. The recent increase in incidence was probably due to increasing awareness amongst doctors as most of the cases were diagnosed in the past 5 years. We hope that the increasing awareness of Crohn's Disease will lead to better management of the disease.



## COLONOSCOPY WITHOUT ANALGESIA AND SEDATION IN HOSPITAL UNIVERSITI KEBANGSAAN MALAYSIA (HUKM)

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### BACKGROUND

Colonoscopy has become one convenient colorectal disease diagnostic tool. Its use requires analgesia with/out sedation for optimal performance. We assessed the feasibility of colonoscopy without analgesia and sedation

### MATERIALS AND METHODS

A single-blind randomized study was performed for new colonoscopy cases. Patients were divided into sedation (IV Pethidine 25mg + IV Midazolam 3mg) and placebo groups. Only complete colonoscopy examinations by an experienced endoscopist were included. Visual analogue scoring was performed for post-procedural pain. Local Ethics committee approved the study.

### RESULTS

Randomization resulted in 25 patients in the sedation group and 21 patients in the placebo group. The two groups were similar in terms of age, sex, race and indications for colonoscopy. The mean time to reach caecum for the sedation and placebo groups were 13.0 minutes and 12.4 minutes respectively ( $p=0.58$ ). Mean pain score was 3.32 in sedation group compared to 4.85 in placebo group ( $p=0.03$ ). There were no complications encountered.

### DISCUSSION

Colonoscopy is feasible and safe even without analgesia and sedation. However, the discomfort and pain produced is still significant.

### CONCLUSION

In HUKM, elective diagnostic colonoscopy without analgesia and sedation is feasible. Patients may now be counseled of their choice not to have analgesia with/out sedation for the procedure.

## THE PROFILE OF COLORECTAL CANCER PATIENTS IN HOSPITAL UNIVERSITI KEBANGSAAN MALAYSIA (HUKM)

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### BACKGROUND

Colorectal cancer (CRC) is one of the major malignancies in the world. In Malaysia, CRC is becoming the commonest cause of cancer death. Its etiology is complex, involving both environmental and genetic factors. This study looked at the profile and outcome of five-year follow-up of patients with CRC.

### MATERIALS AND METHODS

This was a retrospective study done on CRC patients at HUKM, Kuala Lumpur. The patients' socio-demographic characteristics, modalities of treatment, cancer characteristics and outcome of 5-year follow up were extracted from the case records.

### RESULTS

A total of 107 case records of patients were analyzed. The peak age of CRC presentation was 40-69 years (71.1%). The male to female ratio was 1.2:1 with Chinese predominance (52.3%). Anaemia and its related symptoms including per rectal bleeding was the commonest clinical presentation. The median duration of clinical presentation was 13 weeks (IQR 21.8). More than two-thirds presented as non-emergency cases (69.2%). Most patients presented with Dukes C stage (40.2%). The overall 5-year survival rate was 40% with local recurrence rate of 19.6%. Metastasis after curative-intend treatment (surgery with adjuvant therapy) developed in 26% of patients. Lower recurrence ( $p = 0.016$ , OR = 0.205) and metastatic disease ( $p = 0.02$ , OR = 0.24) found among the Chinese patients. Almost half of the patients defaulted follow up care (43%), most often within the first year of treatment (22.4%) and the Chinese were the least likely to default ( $p = 0.04$ , OR = 0.45).

### CONCLUSION

Similar socio-demographic profile is seen among the CRC patients in HUKM compared to other areas of the country. Most patients present late with an apparent delay of treatment seeking of 13 weeks that gives rise to poor overall survival and local recurrence rates. Chinese patients tend to have better outcome in terms of local recurrence and metastatic disease at 5-year follow up. In addition, there was significant less defaulter trend among the Chinese patients.

## **AN AUDIT OF COLONOSCOPY COMPLETION RATE: A BENCHMARK TO ASSESS THE QUALITY OF COLONOSCOPE SERVICE**

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### **INTRODUCTION**

Colonoscopy remains as a gold standard investigation for most of colonic disease. The important factor in evaluation of the quality of a colonoscopy unit depends on its colonoscopy completion rates.

### **AIM**

1. To determine the factors affecting the completion rates of colonoscopy. 2. To assess the completion rates of colonoscopy in hospital Seremban

### **METHOD**

Retrospective data collection of total colonoscopy performed in hospital Seremban since 2003-2006. Definition of completion of colonoscopy in this audit was intubation of terminal ileum, identification of triradiate fold or identification of appendicular opening.

### **RESULTS**

Total 3214 colonoscopy was done from 2003 to 2006 by department of surgery, Hospital Seremban. There was a steady increase of cases from 694 cases per year in 2003 to 1066 cases per year in 2006. The overall completion rate was about 87-89% consistently despite increase in number of cases. The main factor affecting the completion rate was poor bowel preparation 5-7%, followed by obstruction or tumour 1-3% and intolerance by patients about 1%.

### **CONCLUSION**

Periodic audit of colonoscopy completion rate should be advocated in specialized centres in order to increase the quality of endoscope services in the particular centre. Significant improvement in bowel preparation would largely contribute to higher completion rate

## AN AUDIT OF INFORMED CONSENT IN AN OPEN-ACCESS COLONOSCOPY CENTER IN EAST MALAYSIA

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### INTRODUCTION

Informed consent is a legal and ethical pre-endoscopy requirement. Obtaining informed consent is a process that goes beyond the action of obtaining a signature on a standardized form. It is a basic ethical obligation in the practice of medicine, and also a risk management tool. Informed consent is one of the specific quality indicators selected by the ASCE/ACG Taskforce on Quality in Endoscopy. We performed a colonoscopy audit which includes an audit of the various aspects of informed consent in our center.

### METHOD

All patients who undergo colonoscopy examinations during the study period were requested to answer a questionnaire with the help of an endoscopy nurse. The questions were to assess the completeness and effectiveness of the informed consent in regard to the essential components of an informed consent, which includes:

- Nature and character of the colonoscopy procedure
- Material risks of the procedure
- Disclaimer or guarantee of success
- Acknowledgment of opportunity to ask questions
- Discussion of availability of alternative diagnostic modalities

### RESULTS

212 patients who underwent colonoscopy examinations during the study period were included in the analyses. The colonoscopy examinations were performed by consultants or registrars from the gastroenterology and surgical disciplines. 31.6% of the consents were obtained by consultants. 43.9% by house officer or medical officer, 3.8% by nurses and 2.4% by specialist. 18.4% of the patients did not know the designation of the consents taker. 89.6% of consents were obtained on the day of colonoscopy. 77.4% of patients agreed that the colonoscopy procedure was explained to them. Failure rates of explaining the procedure was lower among consultants, 4.5% ( $p < 0.001$ ) as compare to specialist 20%, house/medical officer 30.1% and staff nurse 25.0%. 84.8% of the patients described that the actual colonoscopy examinations were very similar to what were told to them. Only 22.2% of patients were given written materials regarding the colonoscopy procedure. 77.4% of the patients were told about the indications and diagnostic benefits of their colonoscopy examinations. Only 34.0% of the patients were aware that colonoscopy examinations were associated with risk of complications. Consultants (83.6%,  $p < 0.001$ ) were more likely to inform patients regarding risks of complication. 27.8% of them were told about the risk of abdominal discomfort, bloating or abdominal pain. 58.3% and 41.7% of patients were aware of the risk of perforation and hemorrhage, respectively. 11.1% of patients were aware of the risk of sedation. 1.4% was aware of the cardiorespiratory risk associated with colonoscopy examinations. None of the patients was told about the possibility of missed lesion during the colonoscopy examinations. Only 11.3% of the patients were discussed about the availability of alternative to the colonoscopy examinations. 50.0% of patients agreed that they were acknowledged and given the opportunity to ask questions during the consent taking. 42.5% of them were satisfied in regards to the discussion and explanations given during the question-answer session.

### CONCLUSIONS

The practices of obtaining proper informed consent in our center are still less than satisfactory. In 22.6% of cases, the doctors were just obtaining a signature rather than getting informed consent as the procedure was not explained to patients. The failure to get informed consent was more obvious among house/medical officers. Most of the patients were told about the procedure and indication of colonoscopy examinations only. Many failed to discuss about the risks of complications and very few actually discussed about the availability of alternative modalities of examinations other than colonoscopy examinations. All risks are not revealed equally. Risks of complication associated with sedation and cardio-respiratory risks were rarely told to the patients. None of the doctor informed about the risk of missing lesion during the procedure. The delegation of the duty to obtain informed consent appeared to be problematic especially among the junior doctors. Better results will be likely if the endoscopist will to take informed consents themselves.

### LIMITATIONS

In all fairness, the audits carry significant bias. It was solely based on the patients' response to the questionnaire with no referral to the doctors taking the consent. Therefore there is possibility that parts of the details information given to patients during the consent taking were not remembered by patients.



## **RANDOMIZED CLINICAL TRIAL COMPARING DIFFERENT METHODS OF BOWEL PREPARATION USING ORAL SODIUM PHOSPHATE FOR DAY-CARE COLONOSCOPY**

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### **BACKGROUND**

It has been well established that oral sodium phosphate (NaP) is the preferred agent for both patients' tolerance as well as for better bowel cleansing. However, few studies have investigated the outcome of different timings for the same bowel preparation agent.

### **OBJECTIVE**

To determine the ideal bowel preparation regimen, both for patient and endoscopist.

### **METHODOLOGY**

A prospective randomized clinical trial was performed where 97 patients were allocated NaP to be taken at different timings (either on the same day before procedure or over two days). They were later required to fill a questionnaire prior to the colonoscopy to determine their feedback whereas the endoscopists were also required to fill a questionnaire regarding the quality of bowel cleansing.

### **RESULTS**

Both bowel preparation regimens were equally well tolerated. Bowel preparation taken over two days resulted in better bowel cleansing but had more incidence of postural hypotension, more number of bowel movements during the preparation period and patients found it harder to complete.

### **CONCLUSION**

If postural hypotension, increased bowel movements and difficulty in completion of bowel preparation could be tolerated or negated, we would find that taking NaP over the course of two days would definitely be superior.

### **KEY WORDS**

Bowel Preparation, Oral Sodium Phosphate, Oral Fleet

## APPROPRIATENESS OF COLONOSCOPY IN MALAYSIA: A MULTI-CENTRE AUDIT

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### INTRODUCTION

The aim of this prospective cross-sectional study was to determine the appropriateness of colonoscopy conducted in 3 large hospitals in Malaysia, in relation to its diagnostic yield, with reference to the guidelines set by the American Society of Gastrointestinal Endoscopy (ASGE).

### METHODS

We prospectively studied 325 colonoscopies performed over five-month period in Hospital Queen Elizabeth, Kota Kinabalu, Hospital Kuala Lumpur and Hospital Alor Setar. These colonoscopies were evaluated according to ASGE guidelines for appropriateness of performing the procedure. Diagnostic yield was defined as the percentage of relevant colonic pathologies of the total number of colonoscopies performed. Individual indication for colonoscopy was look into in order to study the appropriateness of ASGE guidelines in local context. Different categories of endoscopist were studied to determine their adherence to ASGE guidelines.

### RESULTS

There were 166 (51.1%) female patients in our study. The mean age of the cohort was 55.6 (SD 15.9) years. The rate for 'generally not indicated' colonoscopies by ASGE guidelines was 31.1%. The rate of appropriate indication for all six categories of endoscopist are as followed: Consultant gastroenterologists: 75.0%, Consultant surgeons: 57.1%, Gastroenterology fellows: 70.9%, General surgeons: 61.4%, General physicians: 100% (n=2), Surgical residents: 50.0%. When indications by endoscopists were substratified according to gastroenterologists and surgeon-endoscopists, the rate of appropriate indication among gastroenterologists (72.2%) was significantly higher than that of surgeon-endoscopists (57.5%) ( $P = 0.017$ ). The most common appropriate indications were unexplained gastrointestinal bleeding (93 cases, 28.5%) followed by colonic malignancy surveillance (39 cases, 12.0%). The most common inappropriate indication was chronic constipation in 42 cases (12.9%), followed by abdominal pain (23 cases, 7.1%). When all these colonoscopic findings were analysed, we found that 48.1% were negative findings, 24.7% were positive findings but irrelevant to the indication and only 27.2% were relevant colonic findings (of which 3.5% of the colonic findings were labeled as "lesions suspicious of malignancies"). Appropriate indication gave a diagnostic yield of 34.6% and inappropriate indication gave a diagnostic yield of only 11.1% ( $p < 0.001$ ). Out of 11 cases where "lesions suspicious of malignancies" were recorded, only one case was of inappropriate indication.

### CONCLUSION

Majority of colonoscopies were done with appropriate indications in this study. Adherence to the ASGE guidelines gave a good diagnostic yield and rate of missing relevant colonic pathology seems to be low.

## CLINICAL EPIDEMIOLOGICAL PATTERN OF INFLAMMATORY BOWEL DISEASE IN A TERTIARY REFERRAL CENTER

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### BACKGROUND

Ulcerative colitis (UC) and Crohn's disease (CD), the primary constituents of inflammatory bowel disease (IBD), are precipitated by a complex interaction of environmental, genetic, and immunoregulatory factors.

### METHODS

This is a retrospective observational study of 72 patients were being diagnosed and followed up for IBD in the Gastroenterology unit of the Kuala Lumpur General Hospital from 1991 till now.

### RESULTS

There were 45 males (62%) and 27 (38%) females in this study. The majority was Indian patients (49%), followed by Malays (31%), Chinese (18%) and 1% of other races. 52 patients (73.2%) were diagnosed UC while 19 patients (26.8%) had CD. The mean age group of the patients was  $46.91 \pm 14.97$  years. The commonest symptoms were diarrhea (87.3%) followed by bloody stools (60.6%), abdominal pain (53.5%). 13 patients (18.3%) manifested extra-intestinal symptoms. 9 patients had arthralgia, 2 patients had skin rash while 4 patients had oral ulcers. 6 patients (8.5%) had pseudopolyps and 2 patients (2.8%) had complicated rectovaginal fistula and 1 had duodenocolic fistula. Four patients presented with obstructed abdominal mass. There was no reported case of colorectal carcinoma in our series. 20 patients (39%) were found to be anaemic while 1 patient (1.4%) had mild hepatitis. The colonoscopy findings included pancolitis (25%), proctosigmoiditis (14%), proctitis (11.3%), left sided transverse colitis (8.4%), normal (7%), left sided colitis (7%), caecal disease (7%), colitis with skip lesion (5.6%), ulcerative proctitis (4.2%). Other lesions included ileocaecal disease with skip lesion, pancolitis with backwash colitis, loss of normal vasculature, perianal disease, proctocolitis, stenotic ulceration of caecum, ascending and transverse colon which made up of 1.4% each. 18 patients (25.4%) had received steroids while 14 (19.7%) patients had received immunosuppressant therapy during the course of the disease. 8 patients (11.2%) developed complications due to the disease and needed surgery. There are 12 (17%) patients who were currently in relapse. 21 patients (29.5%) had more than 2 relapses in the course of disease. 2 (2.73%) patients died during the course and follow-up of the disease; 1 from complications of Crohn's Disease while another patient with ulcerative colitis died from severe pneumonia.

### CONCLUSION

Inflammatory Bowel Disease is a chronic disease with varied presentation and is more predominant among the Indians in Malaysia. Ulcerative colitis runs a less aggressive course and most patients responded well to treatment.

## LOCAL EXPERIENCE OF LAPAROSCOPIC COLORECTAL SURGERY

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### BACKGROUND

Laparoscopic colorectal surgery is rapidly gaining recognition as the preferred choice of surgical intervention in patients with benign and malignant colorectal lesions. The procedure has not been adopted widely in this part of the world in comparison to Western countries and our Asian counterparts due to various reasons which includes cost constraints and limited technical expertise.

### PATIENTS AND METHODS

We present our experience of laparoscopic colorectal surgery in 87 patients with colorectal cancer performed in 2 surgical units over the last 2 years (2005-2007).

### RESULTS

Anterior resection was performed in 62 (71%) patients, 10 (16%) of who had neoadjuvant chemoradiation. The mean operating time was 195 minutes and the mean postoperative hospital stay was 6 days. Conversion was necessary in 5 patients (5.7%) and all of these were in the first 10 cases. There were no positive margin involvement denoting complete oncological resection while the mean lymph node yield was 21. Three patients (3.4%) developed an anastomotic leak, all of who had a low anterior resection and one of who bled from the anastomotic line as well requiring blood transfusion. Other complications included 1 case of bleeding from the port site and 3 cases of minor port site infection. There was a zero sixty day mortality rate.

### CONCLUSIONS

Our results of laparoscopic colorectal surgery confirm the superiority of this procedure over open surgery with equivalent oncological results. The rapid recovery from laparoscopic surgery confers many advantages which includes negating the increased instrumentation cost apart from the more important factor of prompt commencement of adjuvant treatment in patients with advanced stage disease. Other advantages include a reduction of wound infection and related morbidity such as occurrence of incisional hernias. Development of adhesive bowel obstruction in the short and long term period is also dramatically reduced. This procedure should be considered as the gold standard for the majority of patients with colorectal cancer.



## ANAL SPHINCTER INJURY REPAIR IN A MALAYSIAN TERTIARY REFERRAL HOSPITAL

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### BACKGROUND

Anal sphincter injury (ASI) is not uncommon and significantly affect patients' lifestyle and function. The chief causes of injury are obstetric injuries at childbirth (ASI-O) and direct trauma (ASI-T), particularly due to motor vehicle accidents (MVA).

### MATERIALS & METHODS

Fifteen patients were assessed between 1 January 2006 – 31 December 2006 at our Hospital Kuala Lumpur unit. The mean age of patients was 30 years (range 16-43 years). The majority of referrals were external (n=9; 60%). All patients exhibited significantly reduced anal tone at presentation by digital examination. Six patients (40%; four ASI-O and two ASI-T) had formal preoperative anal manometry (AM) and endoanal ultrasound (EAUS) all of whom demonstrated reduced resting tone (range 12-25mm Hg) and the site and depth of defects. All but 2 remain on active follow-up. ASI-O: Ten (67%) were females with anterior ASI-O all secondary to their first vaginal deliveries. The 6 late ASI-O had wide variation of duration between onset and referral (range 8 months – 14 years; median 14 months) with only one patient bearing a sigmoid loop colostomy. One had had early attempted repair by her attendant gynaecologist. Two had significant anovaginal fistula (AVF) and two had significant tissue loss with deficient perineum. ASI-T: The five ASI-T were all MVA-related males (mean age 31 years; range 17-42 years) bearing loop sigmoid colostomies. The mean duration from injury to referral of late ASI-T patients was 12 months (range 9-16 months); two were further handicapped by below knee amputations. The sites of injury were more variable with significant tissue loss in 4 patients.

### RESULTS

ASI-O: Four were acute internal referrals and received immediate emergency repair along with trephined sigmoid colostomy; 2 had their stoma reversed after 4 months but the other 2 were lost to follow-up. Five patients received definitive anterior keeled repair with trephined sigmoid colostomy, three had their colostomy closed after 4 months; one had a loop colostomy only. All were advised against having normal deliveries in future pregnancies. ASI-T: Two presented acutely and were immediately repaired along with loop sigmoid colostomies. One died of concomitant polytrauma complications, two had eventual reasonable resting and squeeze tones clinically confirmed on AM and EAUS requiring only stomal closure after 20 and 25 months post-injury; one had definitive repair 18 months post-injury with stomal closure 4 months later despite his amputee status, with the remaining amputee deemed to have irreparable anorectal injury.

Anorectal function appeared satisfactory with little soiling at 3 months in all patients who have had definitive repair and/or stomal closure (n=8 (53%)).

### CONCLUSIONS

ASI-O should be avoided and is best repaired immediately once identified. The results of its repair and subsequent function appeared encouraging in the short term. ASI-T has greater variation of degree of severity of injury and tissue loss. More expectant conservative measures possibly due to fibrotic cicatrisation can result in near-normal function without resorting to operative intervention.

## DNA HYPERMETHYLATION OF MULTIPLE GENES IN COLORECTAL CANCER

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DNA hypermethylation at the CpG islands of tumour suppressor genes causes inactivation of gene expression which may lead to carcinogenesis. The aim of this study was to establish the methylation profile of five CpG islands which might play aetiological roles in colorectal carcinogenesis. Candidate gene approach was used in our study. Primary cancer (CA) and the corresponding adjacent normal mucosal ('non-tumour' NT) tissues from 28 colorectal cancer patients were used. DNA was first extracted from the tissue samples and subsequently modified with sodium bisulfite. Methylation Specific PCR (MSP) was performed to analyse the methylation status of the CpG island promoter regions of five genes. All the genes tested were hypermethylated in CA and NT tissues in varying degrees except for APC which was found to be hypermethylated in CA tissues only. The methylation frequencies of *APC*, *cyclin D2*, *E-cadherin*, *DAPK*, and *HIN-1* genes were 32.1%(9/28), 17.9%(5/28), 89.3%(25/28), 35.7%(10/26), and 60.7%(17/28) for CA tissues respectively, whereas the frequencies were 0%(0/28), 3.6%(1/28), 89.3%(25/28), 50% (14/26), and 28.6%(8/28) for NT tissues. The hypermethylation differences for the APC gene suggest for it to be cancer specific and occurs at a later stage in colorectal carcinogenesis, while aberrant methylation of *cyclin D2*, *E-cadherin*, *DAPK*, and *HIN1* genes may occur at the pre-cancerous stage and could be useful for early detection of colorectal cancer.

## QUALITY OF LIFE ASSESSMENT IN MALAYSIAN OSTOMATES

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### OBJECTIVE

Patients with gastrointestinal stomas bear significant physical, psychological, social and sexual handicap. There is scant literature on the impact of the stoma on Malaysian patients, including its effect on Muslims. The aim of this study is to assess the quality of life in patients with stomata. The impact of living with stoma in the Muslim population was also analyzed.

### METHODS

In a prospective study, stoma patients from a single tertiary colorectal referral centre were interviewed using validated EORTC (European Organization for Research and Treatment of Cancer) health questionnaires QLQ-C30 for general quality of life, and colorectal-specific QLQ-CR 38, at least three months following surgery. Additional pre tested questions pertaining to prayer issues were added for Muslim patients. Data analysis was performed with the use of a statistical programme (SPSS Version 13).

### RESULTS

One hundred and two stoma patients were interviewed between March 2005 until June 2007. Only nine to thirteen percent of patients in the study group reported severe functional score in the cognitive, emotional and social domains. The patterns of responses in the study group were similar to the reference values quoted for European colorectal patients in the cognitive and emotional scores. However, there were notable differences in the social and financial scores. Only 13 percent (n=13) of patients in the study group scored severely in the social domain. This is in contrast to twenty one percent in the European colorectal patients. Furthermore, fifty percent (n=51) reported dire financial handicap. This is very much in contrast to the reference data in the European colorectal population where financial concerns are less overwhelming – only nine percent reported severe financial handicap. Forty percent (n=24) of men had physical sexual deficiencies whilst ninety-five percent (n=38) of women abstained from sex altogether. Eight percent (n=8) found life with stoma severely restricting. Fifty-four percent (n=33) Muslims felt the presence of stoma to be incompatible with their daily prayers.

### CONCLUSION

The presence of a stoma has a profound impact on the quality of life of its recipients, as well as being financially burdensome. Compared to the European colorectal population, the study population scored more severely in the social and financial domains. Stoma-bearing Muslim patients should undergo rigorous counseling addressing religious issues.

## ARGON PLASMA COAGULATION AND SUCRALFATE ENEMA IN CHRONIC RADIATION PROCTITIS

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### BACKGROUND

Increased use of irradiation therapy for pelvic malignancies has led to the increase in the incidence of chronic radiation proctitis, manifesting commonly as haemorrhagic proctopathy.

### METHODS

32 patients with chronic radiation proctitis were prospectively analyzed from July 1999 to June 2006. The application of APC and sucralfate enemas on these patients was assessed.

### RESULTS

All except one of the 32 subjects were women with the mean age of 56 years. Twenty-eight (88%) patients received pelvic irradiation for cancer of the cervix whilst 3 (9%) patients had radiotherapy for cancer of the rectum and 1 (3%) for prostate cancer. The median time to onset of symptoms following irradiation was 16 months. Sixteen patients had haemoglobin levels of less than 8g/dl and blood transfusion was required in 24 (75%) patients. Fourteen (44%) subjects received rectal sucralfate suspension without APC, out of which 5 (16%) patients had initially been treated with hydrocortisone enema. In this group, sucralfate enema effectively procured symptomatic relief in 12 (86%) patients. Rectal bleeding recurred in 2 patients who had been managed exclusively with hydrocortisone and sucralfate enemas, respectively, over a mean follow-up of 6 months. Both patients were managed with topical formalin, which controlled their symptoms. The remaining 18 (56%) patients, who had severe radiation proctitis, received endoscopic application of APC as the first line of treatment followed by sucralfate enema. Only 3 of these patients had recurrent rectal bleeding over a mean follow up of 6 months and required re-application of APC and sucralfate enema. There was no recurrent bleeding in these patients subsequently.

### CONCLUSION

In conclusion, sucralfate enema can be used effectively as first line treatment in chronic haemorrhagic radiation proctitis whereas severe rectal bleeding can be successfully treated with the application of Argon Plasma Coagulation followed by rectal suspension of sucralfate.



## COLORECTAL CANCER DEMOGRAPHICS AND MANAGEMENT IN A MALAYSIAN TERTIARY REFERRAL CENTRE – PROSPECTIVE AUDIT OF A THREE YEAR PERIOD 2004 – 2006

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### BACKGROUND

Colorectal cancer (CRC) is the commonest gastrointestinal cancer and the third commonest cancer in Malaysian patients. There is relative paucity of local data on demographics, presentation, subsequent management, complications and outcome including consequences of neoadjuvant therapy (NAT) for patients with advanced rectal cancer.

### MATERIALS & METHODS

This is a prospective colorectal cancer database for patients presenting to our colorectal unit in Hospital Kuala Lumpur from January 2004 to December 2006. Relevant data was collected using a standardised pre-tested proforma. All data were analysed using SPSS ver.13.

### RESULTS

A total of 204 patients were accrued. Fifty six percent (n=114) of patients were males. The mean age at presentation for males and females were similar (61.5(±11.8) vs 60.8±11.9 years respectively). The majority of patients were in the 60-69 years age group (36%). The majority of patients were Chinese (44%) followed by Malays (37%). The mean age at presentation for Malays was relatively younger at 57.2(±13.6) years (range 26-77 years) with one-way ANOVA being significant for the age at diagnosis and the Malay race (p<0.05). Family history of CRC was noted in 7% (n=14). Left-sided tumours predominate (87%), the commonest site being rectum (41%), rectosigmoid (31%) and sigmoid (12%) with right-sided caecal-hepatic flexure cancers together comprising 11% cases only. In patients with rectal adenocarcinoma, 41(20% overall or 49% of rectal cancers) were clinically assessed to be fixed (T3 or greater) while three had mobile low cancers. All 44 patients were referred for neoadjuvant preoperative chemoradiotherapy (NAT). The majority of patients (n=168;82%) did not reveal distant metastases. The association between preoperative CEA levels and occurrence of distant metastases was significant ( $\chi^2 = 4.06$ ; p<0.05). The most common operations performed were anterior resection (AR) (n=82; 40%) followed by right hemicolectomy (n=24; 12%). Thirty two cases (16%) were performed as emergencies primarily for acute abdomen or acute obstruction. The 30-day mortality for all cases were 2% (n=5). The commonest postoperative complications were wound infections (n=25;12%) and pulmonary-related postoperative pyrexia (12%). Although NAT was seen to increase the rate of days of hospital stay and rate of postoperative wound breakdown, there were no significant differences between NAT and the days of post-operative stay. ( $\chi^2 = 0.43$ ; df = 1; p>0.05) and between NAT and complications. (Fisher's Exact p>0.05). The most frequent histopathological stage were Astler-Coller B2 (41%) followed by C2 (20%) and B1 (16%). Only three patients had stage A cancer. Ninety four patients (46%) received adjuvant therapy with either chemotherapy or radiotherapy or both. Four patients (2%) developed aggressive cancer refractory to NAT and thus were not offered surgery.

### RESULTS

The overall age at presentation, morbidity, mortality and distribution of histopathological stage were comparable to published data. NAT did not seem to significantly affect subsequent operative management or influence length of hospital stay and complications.

## DIAGNOSTIC LAPAROSCOPY: AN IDEAL PROCEDURE FOR FEMALES WITH RIGHT ILIAC FOSSA PAIN

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### INTRODUCTION

Acute appendicitis is the most common surgical emergencies in Malaysia. Accurate diagnosis is always a challenge especially in women whom gynaecological pathology can frequently mimic acute appendicitis.

### OBJECTIVE

To determine the value of diagnostic laparoscopy in women in aid for accurate diagnosis. To compare the variation of diagnosis in patients presenting with right iliac fossa pain between male and females.

### METHOD

Retrospective data collection of laparoscopy appendicectomies done for patients who presented with right iliac fossa pain in 2006. All patients with clinical diagnosis of acute appendicitis underwent a diagnostic laparoscopic procedure. Subsequently proceeded with appendicectomy and other definitive procedures.

### RESULTS

Total of 200 cases of laparoscopic appendicectomies were analysed. All appendices during this surgery were removed. The white appendix rates were 33% in female compared to 2.3% in male. ( $p < 0.002$ ). Acute appendicitis was confirmed during laparoscopic procedure in 68% of the female and 98% of male respectively [ $p < 0.0001$ ]. Gynaecological pathology was found in 12% of these female.

### CONCLUSION

Diagnostic laparoscopy is useful tool for accurate diagnosis in female who presents with right iliac fossa pain. This procedure can reduce the rate of unnecessary appendicectomies.

## **A CASE SERIES OF GASTROINTESTINAL STROMAL TUMORS: USM EXPERIENCE**

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Gastrointestinal stromal tumors (GISTs) aka Gastrointestinal Pacemaker Cell Tumor (GIPACT) is the most common non-epithelial, mesenchymal neoplasms of gastrointestinal tract (GIT). It can occur along GIT the in which the stomach is the predominant site. The use of CD117 (cKIT) has improve the rate of the detection of this tumor and enable us to differentiate this tumor and leiomyomas/leiomyosarcomas.

We are reporting a case series of the GIST involving various site of GIT i.e. stomach, small bowel and transverse colon. We analyzed the case demographically, clinically, anatomically and pathologically.

## ENDOSCOPIC FINDINGS IN ANEMIC PATIENTS (RETROSPECTIVE STUDY IN ALOR SETAR)

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### AIMS

Looking at the endoscopic findings of patients referred to Gastroenterology unit for OGDS with chronic anaemia. The current guidelines only suggest OGDs for anemic patients with low MCV unless there are any signs of upper gi bleed or malignancies. Therefore it would be helpful to find out if there is any correlation between Hb level and MCV level (especially if the MCV is normal or high) with the OGDs findings.

### METHOD

All the patients referred to Gastroenterology unit for OGDs with chronic anaemia over the last 12 months (December 2005 to November 2006) were recruited. Patient list was obtained from endoscopic unit record. Patients with acute upper gi bleed were excluded. OGDs findings were obtained from the endoscopic record. Hb results and MCV results were then obtained from the hematology lab. The lowest Hb around the date of endoscopy was chosen as the reference for anaemia.

OGDs findings were subdivided into normal, erosions, ulcers and others. Erosions group would include any types of inflammation ranging from gastritis, duodenitis, oesophagitis; ulcers group include any gastric or duodenal ulcers and lastly others for lesions such as Delafoy's lesion or AVM.

Anemia was defined as HB <11 for women and < 12 for men.

### RESULTS

Total of 225 patients were recruited. There were 171 Malays and 84 non-Malays. 125 male and 100 female. 49 patients had normal OGDs, 114 patients had erosions, 61 patients had ulcers disease and 1 patient with GAVE. When the results were sub-analyzed, normal OGDs group had mean Hb of 7.44 (95% CI 6.94 to 7.94) erosions group had Hb 7.60 (95% CI 7.26 to 7.95) and PUD group had Hb of 7.71 (95% CI 7.24 to 8.18). When the MCV was analyzed, normal group had a mean MCV 78.35 (95% CI 74.53 to 82.17), erosions group had mean MCV 84.40 (95%CI 82.39 to 86.41), and PUD group had a mean MCV 81.22 (95% CI 78.20 to 84.25). The findings were tested with Independent -T test and it showed that the mean Hb for normal OGDs is 7.35 and abnormal OGDs is 7.68 and  $p = 0.887$  ( $p > 0.05$ ). Mean MCV for normal findings is 78.44 and 83.32 for abnormal MCV with  $p = 0.013$  ( $p < 0.05$ ).

### CONCLUSION

From this study we can conclude that the level of Hb and MCV can't be used as a marker for screening for OGDs as both the normal and abnormal OGDs group had almost the same level of Hb which is not statistically significant. Interestingly, normal group actually had a lower MCV 78.44 compare to the abnormal group 83.32 and the findings are clinically significant ( $p = 0.013$ ).

Therefore in our local setting, we would suggest to perform endoscope on patients with chronic anemia disregard of their MCV as the positive yield is 72.4%. We should also look for other clinical markers to help us separate the normal and abnormal OGDs group in the future.



## THE EFFECT OF MIDAZOLAM ON BLOOD PRESSURE USED FOR CONSCIOUS SEDATION DURING GASTROINTESTINAL ENDOSCOPY

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### BACKGROUND

Midazolam is a fast-acting benzodiazepine, with a short elimination half-life with anxiolytic, amnesic, hypnotic, anticonvulsant, skeletal muscle relaxant and sedative properties. It is frequently used for conscious sedation during diagnostic and therapeutic Endoscopic procedures. It is commonly believed that it does not alter the blood pressure (BP) but it can cause hypotension if an overdose is taken.

### METHODS

We prospectively studied the effect of midazolam on blood pressure utilized during upper and lower endoscopy. Forty patients, with a mean age of  $58 \pm 16$  (range: 18-84) years, 26 females: 14 males, 12 Malays: 11 Chinese; 16 Indians; 1 foreigner, administered midazolam for either a colonoscopy or OGDS were recruited. Patients were categorized into age groups: age  $<50$  ( $n=7$ ),  $50 - <60$  ( $n=16$ ),  $60 - <70$  ( $n=8$ ), age  $\geq 70$  ( $n=9$ ). The mean dose of midazolam used was  $3.3 \pm 1.3$  (range: 1-5) mg

### FINDINGS

There was a decline of systolic BP, diastolic BP and Mean arterial pressure (MAP) of  $12.4 \pm 22$ ,  $5.4 \pm 16$  and  $7.5 \pm 18$  mmHg respectively before and immediately after administering midazolam. The decline of systolic BP, diastolic BP and MAP were all statistically significant ( $p < 0.05$ ). However there was no significant decline in blood pressure after a further few minutes. No patients had MAP that critically dropped below 60 mmHg. Patients above 70 have a greater decline in MAP.

### CONCLUSION

Midazolam can significantly reduce systolic BP, diastolic BP and MAP within a few minutes of administration. The authors believe that caution and blood pressure monitoring must be undertaken in all patients especially those multiple co-morbid medical illness, gastrointestinal bleeders, concomitant usage of narcotics and patients who are hemodynamically challenged.

## PREDICTOR FACTOR OF PATIENT SELECTION FOR HEPATITIS C TREATMENT IN KUALA LUMPUR HOSPITAL

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### OBJECTIVE

Funding for effective Hepatitis C treatment is limited. This study aims to determine the predictor factor of patient selection for the treatment.

### METHODOLOGY

All the case records of patients with hepatitis C on follow-up at the HKL Gastroenterology and Hepatology clinic were studied. Univariate analysis is performed to identify the factors that favour the patient selection for treatment. The differences between study groups were tested using the Student's t-test and chi-square test when appropriate. Statistical significance was established at  $p < 0.05$ .

### RESULT

A total of 327 patients; 244 male (74.6%) and 83 (25.4%) female, with median age of  $44 \pm 12.6$  years (range:14-78). 53.5% were Malays, followed by Chinese (32.7%), Indians (11%) and others (2.8%). 93% were isolated Hepatitis C cases without co-infection with HIV or Hepatitis B. 36.1% have their hepatitis C genotype confirmed and out of these, 60.1% were genotype 3 and 36.4% were of genotype 1. In the remaining, 3 belong to genotype 2 and 1 genotype 4. 74 patients (22.6%) were treated for hepatitis C; conventional interferon (2 patients), conventional interferon plus ribavirin (19) and pegylated interferon plus ribavirin (53).

### UNIVARIATE ANALYSIS OF PREDICTOR FACTORS FOR THE SELECTION OF PATIENT FOR TREATMENT

	On Treatment		p value
	No	Yes	
Age (mean year)	42.91	41.81	0.51
Gender			0.23
male, n (%)	192 (78.7)	52 (21.3)	
Female, n (%)	60 (72.3)	23 (27.7)	
Race			0.07
Malay, n (%)	142 (81.1)	33 (18.9)	
Chinese, n (%)	81 (75.7)	26 (24.3)	
Indian, n (%)	22 (61.1)	14 (38.9)	
Other, n (%)	7 (77.8)	2 (22.2)	
Route of transmission			<0.001
Unknown, n (%)	64 (83.1)	13 (16.9)	
IVDU, n (%)	82 (88.2)	11 (11.8)	
Sexual, n (%)	30 (83.3)	6 (16.7)	
Blood / blood product transfusion, n (%)	63 (58.9)	44 (41.1)	
Haemodialysis, n (%)	13 (92.9)	1 (7.1)	

### CONCLUSION

With limited resources in government hospital, origin of hepatitis C transmission secondary to blood or blood product transfusion is the major predictor of selection for hepatitis C treatment.

## THE RUMINATION SYNDROME: ARE WE MISSING IT IN MALAYSIA?

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### INTRODUCTION

Rumination is now categorized as one of the functional gastroduodenal disorders based on the Rome III criteria moving away from functional esophageal disorders based on the Rome II criteria. The nutritionist and psychiatrist consider it as an eating disorder.

### DESCRIPTION OF CASE SERIES

We describe three above intelligent patients (2 females and 1 male) diagnosed in their second, third and fourth decade of life with this disorder. The three patients had the characteristic voluntary and involuntary repetitive regurgitation of small amounts of food from the stomach, which is then partially or completely rechewed and reswallowed, since as long as they can remember. All three can relate to the eating habits of a cow when prompted and were rather embarrassed and somewhat troubled by it. One patient was planned for a fundoplication which was deferred indefinitely upon diagnosis. All the patients had few endoscopies prior to recognition of diagnosis. Two patients had erosive esophagitis. All three underwent standard esophageal manometry which was essentially normal with no evidence of "rumination contractions" or retrograde peristalsis. Two patients with symptoms of heartburn had positive ambulatory pH study based on %time pH below 4 and a high deMeester score. All three patients were reassured, explained emphasizing the benign nature of the disorder and behavior modification. One patient required proton pump inhibitors to relieve his reflux symptoms.

### DISCUSSION

The rumination syndrome is an underappreciated condition and often misdiagnosed in adults. Contrary to traditional teaching there is usually no underlying psychiatric disorders and certainly can occur in patients with normal intelligence. Esophageal manometry serves to exclude achalasia cardia. Fundoplication would not benefit ruminators and may have dire consequences.

## GUT LYMPHOMA: 5 YEAR CASE REVIEW IN HUSM

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### INTRODUCTION

Domizio et al reported that the gastrointestinal tract (GIT) is the most common affected site of extra nodal non-Hodgkin's lymphoma, accounting for 4-18% of all extra-nodal forms of NHL. GIT lymphomas account 1-10% of all GI Tract malignancies. The most common extra-nodal site of GIT is stomach (63-66.7%). In fact, primary malignant colorectal lymphoma is rare tumour and Goligher saw only two in over 1500 cases of malignant tumour of large bowel.(Goligher et al.). Ernst M et al reported that among the large bowel, the most common site is caecum (70%). We report 3 unfortunate patients with gut lymphoma whom we encountered in HUSM within the last 5 years

### RESULTS/ DISCUSSION

#### Case 1

A 61-year-old Malay lady presented with abdominal pain, fever and abdominal distension, with a mass in left lower quadrant of abdomen. Per abdomen revealed signs of generalized peritonitis with pneumoperitoneum. At laporotomy colonic tumour at splenic flexure with minimal faecal soiling, huge splenomegaly and dilated bowel proximal to tumour. Histopathology exam showed Non-Hodgkin B Cell Lymphoma. Patient refused chemotherapy.

#### Case 2

A 34 years old female had recurrent lower abdominal pain with dyspepsia, loss of weight and appetite. She was cachexic, had hepatosplenomegaly. Urgent OGDS was done, noted extensive growth in D2. Biopsy was inconclusive. Urgent CT abdomen and thorax showed tumour arising from duodenum with local lymphadenopathy and biliary obstruction with left apical lung nodule. An ultrasound guided biopsy done revealed diagnosis of diffuse large B-cell Non Hodgkin's Lymphoma (Stage IV) .

#### Case 3

A 46 years old Chinese lady presented with generalized peritonitis with pneumoperitoneum. At laporotomy revealed perforated colonic tumour splenic flexure with minimal faecal soiling and splenomegaly. Histopathology revealed Non-Hodgkin B Cell Lymphoma.

### CONCLUSION

1. GUT lymphoma is one of the rare gut tumours and can present in various surgical emergencies.
2. Common site for this rare disease was noted in the splenic flexure with all cases were Non Hodgkin B cell Lymphoma.



## NOW BLEEDING, NOW NO BLEEDING. WHAT'S NEXT?

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65 years old man who was initially admitted for renal failure secondary to obstructive uropathy had been referred to general surgery unit for massive lower GIT bleeding. Further history noted that patient do not had similar episode before and also no history of jaundice.

Examination revealed patient was anaemic and haemodynamically unstable. PPI started immediately , blood and FFP transfusion given. Urgent OGDS done however the findings were normal till D3. Monitoring , observation and resuscitation continue , but , the PR bleeding still persisted and haemodynamically remained unstable. Repeat OGDS done the next morning revealed the same findings and the colonoscopy also performed. The large bowel was filled with blood however, still the source of bleeding cannot be determine. urgent mesenteric angiogram with KIV exploratory laparotomy planned. Fortunately the bleeding seemed to be reducing the next day. Haemodynamically stable and urgent angiogram of the celiac, SMA and IMA were all normal.

Observation for the next few days after that also showed clinically stable condition.

The case presented to highlight various modalities in investigating a case of GIT bleeding.

## GASTROINTESTINAL STROMAL TUMOUR

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### BACKGROUND

Gastrointestinal Stromal Tumours (GISTs) are rare tumours arising from connective tissues in the gastrointestinal tract, accounting for less than 5% of all gastrointestinal tumours.

### METHODS

Data was collected retrospectively from January 2000 till January 2007. The cases studied were seen and managed by the UPM Surgical Unit based in HKL

### RESULTS

A total of 40 patients with confirmed diagnosis of GIST over a period of seven years were analyzed. Stomach is the commonest location of the tumour with 18 cases (45%) followed by 12 cases in the small bowel (30%) and 5 (12.5%) cases in the colon and rectum, and 5 cases (12.5%) in the mesentery and retroperitoneum. The youngest patient was 15 years old and the oldest was 88 years old (mean age of 53.8 years). The gender distribution consisted of 25 male and 15 female subjects, comprising of 18 Malays, 17 Chinese, 4 Indians and 1 foreigner. Most cases underwent surgery with 9 cases of total gastrectomies, 4 partial gastrectomies, 5 wide local excisions of gastric masses, 15 small bowel resections, 4 hemicolectomies, and 1 anterior resection. At a mean follow up period of 18 months, there was only one recurrence and the patient underwent relaparotomy.

### CONCLUSION

Although targeted therapy is available, it is not currently used in the adjuvant setting. The mainstay of treatment for GISTs remains to be surgical resection.

## MALNUTRITION IN CANCER AND CHRONIC DISEASES OF THE GASTROINTESTINAL TRACT

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### INTRODUCTION

Nutrition is undoubtedly one of the fundamental elements to be addressed to ensure good patient outcome. This is especially true in those with gastrointestinal cancers and chronic gastrointestinal diseases. Data on nutritional status for this particular group of population is relatively sparse in this part of the world. The objective of this pilot study was to determine the prevalence of malnutrition in patients with either gastrointestinal cancers or chronic gastrointestinal diseases using the scored patient-generated subjective global assessment (PG-SGA) as a malnutrition-screening tool.

### METHODS

Patients with gastrointestinal cancers and chronic gastrointestinal diseases from a single tertiary gastrointestinal referral centre were interviewed using the validated and reliable PG-SGA. Patients were divided into different groups based on their disease entities and scores were given based on their performance in the SGA. SGA-A refers to well-nourished patients, followed by SGA-B, which refers to moderately malnourished patients. SGA-C refers to severely malnourished patients where nutritional intervention is recommended.

### RESULTS

Forty one patients with cancer of the gastrointestinal tract and chronic gastrointestinal diseases were interviewed between February 2007 until July 2007. Twenty one percent of patients in the study group were severely malnourished and twenty three percent moderately malnourished (SGA-B and C). Patients who were severely malnourished were mainly those with cancers of the upper gastrointestinal tract. Of the severely and moderately malnourished patients, only eight percent were from the lower gastrointestinal tract group.

### CONCLUSION

Malnutrition is relatively prevalent in patients with cancer of the gastrointestinal tract and chronic gastrointestinal diseases. PG-SGA is a simple and effective tool to screen for malnutrition.

## THE CLINICAL INDICATIONS FOR ENDOSCOPIC ULTRASOUND (EUS) IN SELAYANG HOSPITAL

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### BACKGROUND

EUS has become an indispensable examination for diagnosing biliopancreatic and gastrointestinal diseases. The clinical indications in tumour staging and evaluating lesions of the GI tract and pancreas have been well established.

### OBJECTIVES

To study (1) the patient demographics and referral pattern for EUS to Selayang Hospital and (2) the clinical indications for EUS in Selayang Hospital.

### METHODS

A retrospective analysis of patients referred for EUS between January 2006 and June 2007 was performed. Demographic data obtained included age, sex and race. Referrals were classified as internal or external (other government/private institutions). Clinical indications were broadly categorised as (i) Staging of tumours, (ii) Evaluation of obstructive jaundice (dilated biliary tree with no apparent cause or LFTs suggestive of biliary obstruction), (iii) Evaluation of pancreatic lesions / cysts, (iv) Evaluation of submucosal lesions, (v) nodes, (vi) others.

### RESULTS

900 patients underwent EUS between January 2006 and June 2007. The mean age of patient was 51.2 years (13-88 years). Male (523): female (377) ratio was 1.4: 1. Racial distribution was as follows : Malay 392(43.6%), Chinese 333(37%), Indian 162 (18%) and others 13(1.4%). Internal referral (within hospital) accounted for 61 % (549) of cases whilst 39% (351) were referral from other government or private hospitals.

Clinical indications were as follows: (i) Staging of tumours: 229 (25.4%), (ii) Evaluation of obstructive jaundice 378 (42%), (iii) Evaluation of pancreatic lesions/cyst: 182(20.2%), (iv) Evaluation of GIT submucosal lesions : 50 (5.5%) (v) nodes: 35 (3.9%), others : 29 (3.2%)

### CONCLUSION

EUS was performed predominantly for the evaluation of hepato-pancreato-biliary (HPB) diseases and this is in keeping with the case load of a tertiary referral centre for hepatobiliary and pancreatic disease.



## GASTRIC MUCORMYCOSIS – A CASE REPORT

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### INTRODUCTION

Mucormycosis is a rare opportunistic fungal infection.

Involvement of the gastrointestinal tract is uncommon and is often fatal.

### OBJECTIVE

To describe the management of a patient with gastric mucormycosis.

### RESULT

Long course amphotericin B resulted in clinical improvement.

Serial endoscopy revealed gradual healing of the gastric ulcer.

### CONCLUSION

In selected groups of patients, amphotericin B can be used in treating gastric mucormycosis.

## **A CASE SERIES OF GASTROINTESTINAL STROMAL TUMORS: USM EXPERIENCE**

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Gastrointestinal stromal tumors (GISTs) aka Gastrointestinal Pacemaker Cell Tumor (GIPACT) is the most common non-epithelial, mesenchymal neoplasms of gastrointestinal tract (GIT). It can occur along GIT the in which the stomach is the predominant site. The use of CD117 (cKIT) has improve the rate of the detection of this tumor and enable us to differentiate this tumor and leiomyomas/leiomyosarcomas.

We are reporting a case series of the GIST involving various site of GIT i.e. stomach, small bowel and transverse colon. We analyzed the case demographically, clinically, anatomically and pathologically.

## A RARE CAUSE OF DYSPHAGIA

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Dysphagia is a symptom of obstruction either functionally or anatomically along the esophagus. There are few common causes of dysphagia like achalasia cardia, esophageal carcinoma, diffuse esophageal spasm and foreign body's impaction. However, there are few rare causes of dysphagia like gastric volvulus, aortic diverticulum and many more.

We are presenting a case of 49-year old Malay lady with 6 months history of dysphagia to solid food which relieved by drinking fluid. She underwent surgery where we found a bilobe spleen which adhered to the left lobe of liver abutting on the esophagus. Post-operatively, she claimed the dysphagia completely disappear.

## **DOUBLE CHANNEL PYLORUS : AN UNUSUAL AND SURPRISING OPENING IN THE STOMACH: A CASE REPORT**

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Double channel pylorus is an abnormal communication between the stomach and the duodenum. It may be a surprising finding during endoscopy. Due to its benign nature it does not pose much problems to patients, rather being a tell tale sign of chronic peptic ulcer disease. Once or probably twice in a lifetime an endoscopist may encounter an unusual opening in the stomach. Being extremely rare this may include pyloric duplications appearing as cysts and diverticula rather than true double channels.

We report a case of an 82 year old gentleman with a history of acute inferior myocardial infarction who first presented with upper gastrointestinal bleeding in November 2004. Prior to this he had been on aspirin for many years. He also suffered from bronchial asthma, osteoarthritis of both knees and hepatitis C. An emergency upper gastrointestinal endoscopy revealed multiple huge forest 2C ulcers in the first and second part of duodenum. He was placed on proton pump inhibitors. However, he continued to have symptoms of peptic ulcer disease. In 2005 another upper gastrointestinal endoscopy was performed which was found to be normal. The patient defaulted his follow up and discontinued medical treatment. In May 2007 a third upper gastrointestinal endoscopy was performed as he developed recurrence of symptoms. This revealed an abnormal communication between the antrum and the first part of the duodenum along with multiple forest 3 ulcers in the antrum. The opening was suspected initially to be a perforation due to its location immediately adjacent to a huge ulcer. However, it turned out to be a double channel pylorus. The patient was treated with proton pump inhibitors and scheduled for further endoscopic evaluation.



## STOMACH AND SMALL INTESTINAL TRICHOBEZOARS (RAPUNZEL SYNDROME)

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### PURPOSE

To report a case of stomach and small intestinal trichobezoars (Rapunzel Syndrome).

### CASE REPORT

A 13 year-old girl presented with epigastric pain for 7 days associated with vomiting, one day prior to admission. Systemic review revealed symptomatic anemia with lethargy, reduced effort tolerance and loss of appetite for the last one week. Clinical examination found pallor with mild epigastric tenderness without peritonitis. Laboratory data revealed hypochromic microcytic anemia and normal amylase and liver function. Abdominal films showed no evidence of bowel obstruction. She was initially managed as anaemia with gastritis by the physician. Subsequently she was referred to the surgical team for unrelieved symptoms. Repeat examination revealed a vague epigastric mass with no jaundice. Further history from mother revealed PICA (eating rubber bands). She also had a sibling eating charcoal.

An Upper endoscopy (OGDS) was performed with trichobezoar found extending beyond the stomach into the duodenum. Attempted endoscopic removal failed. She underwent exploratory laparotomy which a 5 cm gastrotomy revealing a trichobezoar extending from the greater curvature of the stomach through the pylorus into the duodenum, with a communicating string further down the jejunum till 120cm from the ileocecal valve, with a third bezoar concretion felt. At laparotomy, an ileo-ileal intussusception was noted at 25 cm from the DJ flexure, probably iatrogenic (secondary to attempted endoscopic removal of the foreign body with long communicating string). The gastroduodenal bezoar was successfully removed with the string snapped. Hence, an enterotomy was performed to remove the jejunal bezoar together with the string. Her postoperative course was uneventful. She was discharged home 6 days after the operation. Retrospective examination revealed patchy baldness of her frontal forehead. Child psychiatry was consulted postoperatively and outpatient therapy relieved her trichophagia, but only partially relieved the act of hair-pulling.

### DISCUSSION

Trichobezoars are an uncommon cause of gastric outlet obstruction in the pediatric emergency room. They most commonly occur in teenage girls with concomitant, although frequently undiagnosed, psychiatric disorders ie trichotillomania with associated trichophagia.

Diagnosis may be aided by radiological investigations together with high index of suspicion. Upper endoscopy carries the added benefit of differentiating a trichobezoar from a phytobezoar, as the therapy for each is different.

This case emphasizes the role of endoscopic assessment in the diagnosis of trichobezoars and the importance of complete exploration of the small bowel at the time of removal of an obstructing gastric bezoar, in view of a possible second or third bezoars.

## RECTAL FOREIGN BODY

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### BACKGROUND

Foreign bodies in the rectum are a common occurrence encountered as a surgical emergency. Most cases can be managed by retrieval of object per rectum under anaesthesia using some ingenuity.

### AIM

To report a case of rectal foreign body treated at our institution.

### METHOD

We reviewed our case and also extensive literature on this subject.

### CASE

A 72 year-old man presented with an orange in the rectum whilst being used for anal pruritus. He had lower abdominal discomfort but no signs of peritonitis. Attempt to remove it per rectum under local anaesthesia failed and successful retrieval achieved under spinal anaesthesia. Retrospective history reviewed previous history of similar presentation 3 years ago but the foreign body was guava.

### CONCLUSION

Early recognition of problems in extraction per rectum is vital. Practice low threshold in proceeding to laparotomy to prevent anal or rectal injuries. Recognition of recurrent presentation is vital as a psychiatric consultation is necessary to prevent recurrence.

## INTRAMURAL HEMATOMA OF THE ESOPHAGUS

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Intramural hematoma of the esophagus is rare and need to be considered in patient presenting with chest pain, dysphagia and hematemesis. It can be either spontaneous or post traumatic resulting in submucosal bleeding and subsequent intramural dissection between the mucosal and the muscular layers. Accurate diagnosis may be delayed if not recognized. We report a case of an elderly gentleman with history of coronary bypass and percutaneous coronary angioplasty who presented with intramural hematoma of the esophagus secondary to retching and vomiting. He was on multiple anti-platelets agents. Endoscopy showed a large darkish red column extending the entire length of the esophagus and this was misdiagnosed as an extensive varix and attempted endoscopic treatment led to further hematemesis. This condition typically resolves with conservative and supportive management.

## A RARE CAUSE OF MASSIVE GIT BLEED IN CHILD

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Dieulufoy lesion is uncommon cause of upper gastrointestinal bleeding. The incidence in adult range from 1 – 5 %. Most of the lesion were found in the stomach and sometimes in other part of intestinal tract. In pediatric age group, this lesion is rare. It is characterized by a minute mucosal defect with large, tortuous artery at the base of defect, causing rupture of the artery with massive blood loss. We present a 5 year old boy with history of frank malenic stool 3 days prior to admission. Upper endoscopy was done and the finding was a pulsatile, bleeding blood vessel at the posterior wall of the second part of duodenum. Hemoclip was applied but failed. Urgent laparotomy and ligation of the vessel was done. Unfortunately, he rebleed 5 days late. Urgent re-laparotomy found a same vessels which was bleeding and re-ligated. We believe that in case of DL, although endoscopic management is the first choice, careful observation is mandatory to prevent death.



## ACUTE GASTRIC RUPTURE

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Acute gastric rupture (AGR) in adults is a potentially life threatening condition that has not been extensively mentioned since the earliest substantiated report made by James Carson at The Pathological Society during the 1845-46 session. The pathophysiology has remained obscure till today. The cases ever reviewed have not yielded any common denominator. The diagnosis of AGR had frequently been made in neonates but rarely in adults. There had often been a necessity to make the diagnosis intra-operatively and AGR had almost always been associated with gastric dilatation. AGR involved tearing of a muscular organ well adapted to handle distension. We report a case of acute gastric rupture probably secondary to neurogenic paralysis of the stomach in an adult with frequent alcohol use and bizarre dietary habits. We also explore the numerous postulated pathophysiology of AGR available from literature search.

### KEYWORDS

gastric rupture, dilatation, obscure pathophysiology, neurogenic paralysis

## **NON HODGKIN'S LYMPHOMA OF GASTROINTESTINAL TRACT PRESENTING AS INTUSSUSCEPTION**

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Gastrointestinal tract is the commonest extranodal site of presentation of non-Hodgkin's lymphoma, accounting for 4-12% of all non-Hodgkin's lymphoma. In Western populations, the stomach is the most common site (50-60%) for extranodal lymphomas while 20-30% of extranodal cases arise in the small bowel depending on the amount of lymphoid tissue present. We report on a case of a previously healthy 56 year old gentleman presenting with intestinal obstruction secondary to intussusception of the small bowel. A surgical resection was performed. Histological evaluation revealed a diffuse high grade B cell non-Hodgkin's lymphoma. He was discharged and returned two weeks later with jaundice. An oesophagogastroduodenoscopy was done which revealed a large ulcer in the body of the stomach and polypoidal lesions in the first part of duodenum. Both lesions biopsied confirmed non-Hodgkin's lymphoma. Helicobacter pylori was absent. Computed Tomography of abdomen showed a bulky submucosal lesion at the 1<sup>st</sup> and 2<sup>nd</sup> part of duodenum obstructing the distal common bile duct. He is now undergoing chemotherapy with excellent symptomatic and endoscopic result.

## **GASTRIC ADENOCARCINOMA : A CASE REPORT**

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Gastric cancer is the second largest cause of cancer-related death worldwide. It is more common in male compared to female and usually occur in the 40-70 years age group. 95% of gastric cancer is adenocarcinoma. Most of the patient presented late because it does not produce symptoms at the early stage of the disease. Main treatment for gastric cancer is surgical resection. However, high rate of relapse make it important to consider adjuvant treatment (chemotherapy or radiotherapy).

We reported a case of a 54 years old Malay lady who presented with abdominal discomfort for 3 months and progressively enlarged epigastric mass associated with early satiety, loss of appetite and alteration in bowel habit. She was diagnosed to have carcinoma of the stomach after OGDS and CT scan of the abdomen, she underwent partial gastrectomy and the diagnosis was confirmed by HPE. Patient succumbed to her illness after third cycle of chemotherapy.

## **A RARE MUCINOUS COLORECTAL ADENOCARCINOMA IN A YOUNG PATIENT: A CASE REPORT**

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Colorectal cancer is the third commonest cancer. It occurs >80% in patient aged more than 60 years old. The incidence of colortectal cancer in the young patient is increasing. There is study showed that the incidence of colorectal cancer in young patient of up to 10%. They usually presented at advanced stage at operation. The location of the tumour is similar with the older patients but it has a higher incidence of mucinous tumour. They also have a poorer prognosis.

We reported a case of 17 years old boy who presented with anaemia and right illiac fossa mass. He was diagnosed to have colorectal carcinoma with synchronous lesion. He was subjected for hemicolectomy and sigmoid colostomy. He was scheduled for closure of colostomy but it was deferred due to recurrent of tumour. Repeated CT scan also showed metastasis to the lymph nodes, lungs and liver. He later underwent laparatomy and internal bypass for transverse colon obstruction.



## **GASTRIC VOLVULUS IN PAEDIATRIC PRESENTING AS SURGICAL EMERGENCY**

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Gastric volvulus was first described by Berti in 1866, since then it remain a rare clinical entity. It is defined as an abnormal rotation of the stomach of more than 180° and creating a close loop obstruction that can result in incarceration and strangulation. Due to its rarity, there was a dilemma faced by managing surgeon mainly during surgery. The extent of gastropexy was not well established and associated diaphragmatic anomalies should or should not be repaired. To illustrate the above matter, we described a 1 year and 6 month old boy who was only 9 kg in weight presented with one day history of abdominal pain associated with few episodes of retching. Clinical examination revealed a mildly distended abdomen with fullness at the left hypochondriac area, tender but no guarding. He had no signs of peritonitis, the diagnosis of gastric volvulus was suspected base on plain abdominal x-ray and it was confirmed by a kontras study. Emergency laparotomy was performed. The case is discussed and literature were reviewed.

## A MALAYSIAN CASE OF EOSINOPHILIC ESOPHAGITIS

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### INTRODUCTION

Eosinophilic esophagitis is an inflammatory condition in which there is dense eosinophilic infiltration of the surface lining of the oesophagus. It is being increasingly diagnosed especially in the west but rarely in the Asia. Here, we present a case of eosinophilic esophagitis in a 41 years old gentleman.

### CASE REPORT

This gentleman is referred from a general hospital of southern region. He presented with history of dysphagia mainly to solid of 3 years duration and heart burn. Dysphagia occurred daily and needed to induce vomiting for relief. He has no history of asthma or allergy. 1<sup>st</sup> upper endoscopy in the southern hospital showed ring like structure in the lower oesophagus. Barium swallow suggested web like lesion at different level. 2<sup>nd</sup> upper endoscopy in Kuala Lumpur hospital revealed pale mucosa, obvious long furrow like lesion of entire length of oesophagus, with adherent whitish exudates resembling scattered fungal infection. However, no obvious ring like lesion seen. Multiple biopsies taken from the mid-oesophagus revealed marked eosinophils infiltration into the mucosa with eosinophils count of 25/hpf. He was given esomeprazole 40mg daily and MDI budesonide 800\_µg bid to swallow. His dysphagia improved and required less episodes of induced vomiting for relief. He was reviewed at 3 months, the long furrow like lesion and whitish exudates confined only to the lower third of oesophagus. 2<sup>nd</sup> biopsy of mid-oesophagus still revealed eosinophils infiltration to the mucosa but only at 10 eosinophils / hpf. He was advised to continue the PPI and budesonide.

### COMMENT

Long furrow and white surface exudate like material (corresponds to eosin microabscess) are both unique features of eosinophilic esophagitis. In GERD, the density of eosinophils count is always less than 3/hpf; whereas in eosinophilic esophagitis the count is above 15/hpf. This is thought to be the first documented Malaysian case of eosinophilic esophagitis. Eosinophilic esophagitis should be considered in the differential diagnosis in patients with dysphagia even in this region of the world.

## BILIARY ASCARIASIS : REPORT OF 2 CASES

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### CASE REPORT 1

A 54 year old Malay lady presented with right hypochondrial pain associated with mild jaundice for one month duration. Physical examination revealed tenderness over the right hypochondrium. Laboratory investigation revealed a mild hepatitis with normal serum amylase and white cell count. An Abdominal ultrasound showed a tubular filling defect along the right intrahepatic duct extending into the common bile duct.

An ERCP confirmed 2 long tubular filling defects along the right intrahepatic duct extending into the common hepatic duct which suggested the presence of ascaris lumbricoides. The adult worms were pulled out through the ampulla of vater using a basket without a sphincterotomy being performed. A repeat cholangiogram, after extraction of the adult worms showed disappearance of the tubular defect

### CASE REPORT 2

A 39 year old G9P8 at 19/52 pregnant lady presented with chronic epigastric pain for 6 months. There was no history to suggest biliary sepsis during admission. Physical examination were unremarkable except for a mildly tender epigastrium. Biochemically, there was no evidence of obstructive jaundice. The serum amylase was normal.

An obstetric review excluded pregnancy-related complications. An abdominal ultrasound revealed presence of tubular filling defects extending from the common bile duct to right intrahepatic duct. Multiple ascariasis was suspected in the antrum of the stomach. An upper endoscopy was done in view of her troubling persistent epigastric pain and ultrasound findings.

Upper endoscopy revealed presence of heavy ascaris infestation in the stomach and duodenum. A stat dose of Albendazole 400mg was given and she reported passing out worms in the stool. Her symptoms improved and a repeat upper endoscopy revealed clearance of the worms. She was discharged well with a decision to manage her biliary ascariasis after delivery.

### DISCUSSION

A. Lumbricoides is the most common helminthic infection, with an estimated worldwide prevalence of 25 %<sup>(1)</sup>. Symptoms, however usually develop only in patients with heavy worms burden. The parasites usually infest the small intestine, but they can enter the ampulla of vater and migrate into the biliary or pancreatic ducts causing biliary colic, obstructive jaundice, cholangitis, acalculous cholecystitis and pancreatitis. Strictures of the biliary tree can result and these predisposes to recurrent cholangitis<sup>(2)</sup>.

Intestinal ascariasis can be treated conservatively with 1 dose of albendazole (400mg) but worms in the duct are not effectively treated with the drug. Worms can be extracted from the duct and a sphincterotomy may facilitate migration of the worms into the biliary tree. Endoscopic extraction without sphincterotomy is recommended to prevent recurrence in at-risk patients <sup>(1)</sup>. We reported here, a successful endoscopic extraction of the worms without a sphincterotomy being performed.

## DYSPHAGIA IN A PATIENT WITH AIDS: A CASE REPORT

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### CASE REPORT

The patient, a 38 year-old man, an ex-IVDU with HIV-HCV co-infection diagnosed 4 years ago, presented with dysphagia and odynophagia to solid food for one month. He defaulted his HAART medication and his last CD4 count was 2 cells/uL.

Past medical history consists of TB lymphadenitis and *Pneumocystis carinii* pneumonia for which he was undergoing treatment currently.

Physical examination revealed a cachexic man with pallor and oral candidiasis. Cervical lymph nodes were palpable. A skin lesions resembling *molluscum contagiosum* was noted. Laboratory results showed pancytopenia and mildly raised liver enzymes. *Penicillium menafei* was isolated from the blood culture.

An OGDS was performed which showed extensive ulcerations with whitish coating of the esophagus at 20 to 35 cm from the incisor teeth. The stomach and duodenum were normal. Biopsies of the ulcers were taken for histopathological examinations.

### HISTOPATHOLOGICAL REPORT

Biopsies taken from the patient showed necrotic material containing numerous candida spores and hyphae with adjacent strips of squamous epithelium containing intracellular histoplasma organisms and multinucleated cells characteristic of herpes simplex infection.

Numerous candida hyphae and spores were seen within the necrotic squamous epithelial layer and were highlighted by PAS stain. Numerous intracellular histoplasma organisms present within the squamous epithelial layer. Multinucleated cells with characteristic clearing of the nucleus, a feature of Herpes Simplex infection was seen in the biopsy specimen.

The patient was treated with an adequate course of IV Amphotericin B and IV acyclovir. He responded symptomatically to the treatment given and a repeat endoscopy revealed healing of his esophagitis.

### DISCUSSION

The esophagus may be the site of the first AIDS-defining opportunistic infection (1). The most common esophageal symptom described by HIV patients is odynophagia and frequently odynophagia and dysphagia occur simultaneously (1). Esophageal diseases associated with HIV infection can be attributed to opportunistic infections or neoplastic lesions.

*Candida albicans* is the most frequently identified cause of esophageal symptoms (2). It is usually, but not always associated with oropharyngeal candidiasis. Asymptomatic esophagitis may also occur in the presence of oropharyngeal candidiasis. Oral fluconazole is the treatment of choice in HIV patients.

Human herpes virus 6 (HHV 6) has recently been isolated from the esophagus in patients with AIDS (2). However, Herpes esophagitis is rare in AIDS patients. Intravenous acyclovir is the treatment of choice in HIV patients. Bacterial and mycobacterial esophageal involvement are uncommon (2).

Gastrointestinal histoplasmosis is an uncommon disease with protean manifestations (3). Bowel obstruction, perforation and bleeding are some of the life-threatening consequences of gastrointestinal histoplasmosis. *Histoplasma capsulatum* may rarely cause esophageal disease. It may occur as a result of mediastinal histoplasmosis or in the setting of progressive histoplasmosis (3).

The patient illustrated here manifested esophageal symptoms and *Candida*, HHV and *Histoplasma* were all isolated from the biopsy specimens. This case demonstrates that gastrointestinal infections remain a common cause of morbidity in the immunocompromised host.



## SUCCESSFUL ENDOSCOPIC THERAPY OF AN INTRAHEPATIC BILE LEAK: A CASE REPORT

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### CASE REPORT

A 16 year-old boy sustained cerebral concussion, multiple bone fractures and intra-abdominal injury following motor vehicle accident. An urgent CT abdomen revealed deep laceration of the liver extending from segment I into segment II and V and a large amount of blood in the abdominal and pelvic cavity.

Emergency laparotomy and on table cholangiogram revealed left lobe liver laceration and extravasation of contrast at the level of left minor intrahepatic duct. He was managed surgically.

However he continued to have excessive bile drainage from his surgically placed drain postoperatively. An ERCP was performed and revealed a large bile leakage over the left intrahepatic duct.

The bile leakage was managed endoscopically with placement of a 10Fr x14 cm plastic biliary stent was placed over the leakage site. He recovered uneventfully post ERCP. A repeat ERCP at 6 weeks later demonstrated a complete resolution of the leakage and the stent was subsequently removed.

### DISCUSSION

Blunt injury causing laceration of the intrahepatic duct is fortunately rare (1). The diagnosis of intrahepatic bile duct injury is occasionally delayed until 48 hours after initial presentation (1).

The management of biliary leak secondary to blunt or penetrating hepatic trauma remains a challenging problem. A systematic approach to biliary injuries has not been established. (2)

Surgical management includes simple drainage, direct suture, bilio-digestive anastomosis and even hepatectomy in rare cases. (3) However, endoscopic management of biliary leak is a simple, safe and effective therapeutic method as illustrated in this case (2).

## CASE REPORT: GIST PRESENTED WITH UPPER GI BLEED

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### INTRODUCTION

Gastrointestinal Stromal Tumours (GIST) are soft tissue sarcomas of mesenchymal origin that arise in GI tract. These are rare tumours representing approximately 0.1-3.0% of all GI cancers and approximately 5% of all soft tissue sarcomas<sup>1</sup>. The most common presentation of GIST is GI bleeding (50% of patients). We are reporting a case of GIST in Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan.

### CASE REPORT

An 83-year-old Malay lady presented in 2005 with haematemesis and malaena. She has underlying hypertension, ischaemic heart disease, and previous CVA with no neurological deficit. On examination, she was pale, hypotensive and tachycardic but other findings were normal. Emergency gastroscopy was done which revealed superficial prepyloric ulcer but no active bleeding seen. Her blood investigation showed Hb 67 g/L, MCV 90 fL. She was transfused and given intravenous infusion of pantoprazole for 72 hours.

She was discharged well with a course of oral omeprazole 40mg BD. A repeat gastroscopy was done 3 weeks later which showed submucosal mass (5cm X 5cm) with ulceration at the lesser curvature of the body of the stomach. Multiple biopsies were taken which showed ulcer edge with a focus reactive atypia.

The patient had CT abdomen which showed a well-circumscribed soft tissue mass arising from the lesser curvature (3.5 X 3.5 X 3.0 cm) which enhances following contrast. The mass protrudes into the lumen but does not occlude the lumen. The base of the mass is smooth in outline and has good fat, soft tissue interface. No regional lymph nodes enlargement. These features are suggestive of benign lesion of the stomach.

The patient was referred to Hospital Selayang for endoscopic ultrasound (EUS) which showed a large mass arising from the muscle layer, well-encapsulated within the muscularis propria (4.1 X 3.1 cm) with heterogeneous centre. No lymph nodes noted.

Histopathological examination of the tissues obtained during EUS showed fragments of a spindle-shaped lesion. The cells are arranged in fascicles, tight interlocking bundles and linear fascicles. There is minimal cytological atypia. No mitosis and necrosis seen. Immunohistochemical examination showed tumour cells are strongly positive for CD117 (c-kit).

The diagnosis of Gastrointestinal Stromal Tumour (GIST) was confirmed based on the endoscopic, radiographic, histopathologic findings and positive immunohistochemical for CD117 (c-kit). The patient underwent a laparoscopic resection at HUKM in Dec 2005.

Unfortunately, she developed pyloric stenosis post laparoscopic resection. She recovered well after an endoscopic balloon dilatation.

### DISCUSSION

GISTs can occur anywhere in the GI tract, however, most GISTs arise in the stomach (60-70%) as observed in our patient. The symptoms of GISTs are non-specific and depend on the size and location of the lesion. Small GISTs (<2cm) are usually asymptomatic. The most common symptom is GI bleeding (50% of patients) as seen in our patient. Systemic symptoms such as fever, night sweats and weight loss are common in GISTs, however, our patient did not report these.

This case demonstrate that EUS is a useful and important tool to establish the diagnosis and direct further patient management. GISTs can be identified using immunohistochemistry CD117, which is also known as c-kit protein (a cell membrane receptor with tyrosine kinase activity).

The optimal management of GISTs remains controversial. All GISTs have malignant potential, however, the absolute potential for malignancy and metastases appears very low, especially for small lesion. Currently, surgical resection is the principal treatment for GIST. The decision should be made on individual basis. For our patient, it was felt that laparoscopic resection was the best option for her- in view of her age and other comorbidities. In unresectable or metastatic disease, imatinib mesylate (Glivec) can be considered.

### CONCLUSION

GISTs commonly present with upper GI bleed.

Gastroscopy, CT abdomen, and EUS are useful and important tools to establish the diagnosis and direct further patient management.

GIST can be identified using immunohistochemistry CD117, which is also known as c-kit protein.

Management of GIST is controversial. The management should be made on individual basis.

### **THREE CASES OF DIEULAFOY'S DISEASE IN MYANMAR RURAL STATE**

Tin Kyaing

*Kota Kinabalu, Sabah, Malaysia*

The history of Dieulafoy's disease can be traced back to 1884, which was explained by a French Surgeon Paul George Dieulafoy for the first time. Even then it has remained as a rare disease because of either ignorance or inavailability of sophisticated diagnostic tools in the set up. In this report, there are three cases of Dieulafoy's disease which are managed at a referral hospital in the rural state of Myanmar from year 1996 to 2000.

All cases were 49 to 51 year old, previously healthy persons admitted for massive haematemesis and melaena without relevant medical history. Repeated endoscopy revealed the pathology. All were well after surgical wedge resection.

Repeated endoscopy is necessary to rule out the cause in cases of unexplained upper GI bleedings. Since the only mode of successful treatment is surgical resection in the rural hospital, it is important to have a high index of suspicion for immediate surgical intervention.

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