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CONTENTS

Page

LECTURES

L1	The Use of Biologics in Inflammatory Bowel Disease <i>Rupert Leong</i>	1
L2	Ulcer Bleeding: What You Really Want to Know <i>Sydney Chung</i>	2
L3	<i>Helicobacter Pylori</i> – Is it Relevant in Current Clinical Practice? <i>David Y Graham, Michael E DeBakey</i>	3
L4	Plausible Solutions for Impossible Problems <i>Pali Hungin</i>	4

SYMPOSIUM

SP2-1	Challenges and Future Perspectives in the Treatment of Chronic Hepatitis B <i>Henry L Y Chan</i>	5
SP2-2	Challenges and New Perspectives in the Treatment of Viral Hepatitis C <i>Mitchell L Shiffman</i>	6
SP3-1	Portal Hypertension: Pharmacotherapy <i>H F Lui</i>	8
SP3-2	Role of TIPS in the Treatment of Portal Hypertension <i>P Sundeep</i>	9
SP3-3	Surgery in Portal Hypertension <i>K S Manisekar</i>	11
SP5-1	Obesity – Overview of Treatment and Non-Surgical Treatment <i>K Y Ho</i>	12
SP5-2	Obesity - Surgical Options <i>D Lomanto</i>	13
SP6-1	Current Status of Minimally Invasive Surgery <i>D Lomanto</i>	14
SP6-2	Minimally Invasive Surgery - Future Perspectives <i>Sydney Chung</i>	15

GI AND HEPATOLOGY IN PRIMARY CARE

GI-1	Evaluating and Treating Dyspepsia <i>Pali Hungin</i>	16
GI-2	Issues in the Diagnosis and Treatment of <i>Helicobacter Pylori</i> <i>H J Tan</i>	17
GI-3	Irritable Bowel Syndrome <i>M Radzi</i>	18

YOUNG INVESTIGATOR'S AWARD

- YIA-1 The Risk Factors for Mortality, Recurrent Bleeding and Need for Surgery and the Use of Rockall Score in Non-Variceal Upper Gastrointestinal Bleeding at a University Hospital in the East Coast of Peninsular Malaysia 19
Y Y Lee, N Noridah, A R Amry, M Nazri, C H Nor Aizal, S Hassan, M Maya, M Zaidi
- YIA-2 Response to Proton Pump Inhibitor Therapy - Comparison Between Patients with Erosive Gastroesophageal Reflux Disease and Non-Erosive Reflux Disease Based on Acid Perfusion Test Positivity 20
J L Hartono, C S Qua, C H Wong, K L Goh
- YIA-3 Mismatch Repair (MMR) Genes Expression Defects and Association with Clinicopathological Characteristics in Colorectal Carcinoma 21
K L Chin, K Gurjeet, N Raihan, M Radzi, W Khamizar, S Subathra, S K Lee, B Hisham
- YIA-4 An Assessment of an Association Between Objective Colonoscopic Findings of Crohn's Disease with the Occurrence of its Specific Clinical Outcomes 22
R A Raja Ali, A Pakravan, A Zulqueirmain, J M Lee, L J Egan
- YIA-5 A Randomized Study on the Use of Dexamethasone for Prevention of Nausea and Vomiting and Reduction of Pain after Laparoscopic Cholecystectomy 23
R B Hisham, Tikfu Gee, Y A Gul

POSTERS

- P1 Evaluation of Patients with Campylobacter Like Organism (CLO) Test Positive and Peptic Ulcer Disease (PUD) by Upper Endoscopy at Combined Endoscopy Unit, Hospital Tengku Ampuan Afzan, Kuantan, Malaysia 24
A J Khairul, H Hadzri, S Sapari, Y W Yang
- P2 CA19-9 As a Non-Invasive Marker for Disease Activity in Hepatitis B Patients: Is There Any Role? 25
H Hadzri, A J Khairul
- P3 Carcinoma of Ampulla of Vater: Effect of Preoperative Biliary Drainage on Outcome of Surgery 26
A A Sheikh, T Gupta, Alexander Chung, London L Ooi, S Mesenas
- P4 EUS for Choledocholithiasis: Accuracy and Cost Benefit Analysis 27
A A Sheikh, T Gupta, S Mesenas
- P5 Efficacy and Safety of Levofloxacin - Based *Helicobacter pylori* Eradication Regime Compared to Conventional 1st Line Therapy 28
H Aizan, H Roslan, A A Sheikh, R Hamizah, A S Shamsul, T Z Ong
- P6 Clinicoepidemiological Pattern of Esophageal Varices in Cirrhotic Patients in Hospital Raja Perempuan Zainab II (HRPZ II) Kota Bharu Kelantan 29
S S Thein, S Rosemi, C H Nor Aizal, Y Y Lee, P Rajesh, A Fazlina
- P7 Abdominal Tuberculosis: A Challenging Disease 30
C H Nor Aizal, S Rosemi, S S Thein, Y Y Lee, Dzawani
- P8 Levofloxacin Triple Therapy as 2nd Line Rescue Therapy for Refractory HP Infection 31
M M Jeeta, C S Qua, K L Goh
- P9 Rabeparazole- Amoxycillin High Dose Dual Therapy as 1st Line Rescue Therapy in *Helicobacter Pylori* Eradication Failures 32
M M Jeeta, C S Qua, K L Goh

CONTENTS**Page**

P10	Diagnostic and Prognostic Significance of Hepatitis B Core Igm in Patients with Acute Hepatitis B and Chronic Hepatitis B Flare <i>F M Zawawi, S S Tan, S Sachithanandan, S Nawi, Y M Chan, O K Tan, I Merican</i>	33
P11	<i>Helicobacter Pylori</i> Resistance to Antibiotics in Malaysia <i>K L Goh, C S Qua, J Manikam, N Parasakthi</i>	34
P12	Pantoprazole / Amoxicillin / Clarithromycin as First-line <i>Helicobacter Pylori</i> Eradication Therapy: Is it still Effective 10 Years on? An In-clinical Practice Study <i>C S Qua, M M Jeeta, K L Goh</i>	35
P13	Hepatitis C Treatment: The Hospital Ipoh Experience <i>K K Saravana, S Palaniappan</i>	36
P14	An Audit of Chronic Hepatitis B Infection Care in the Gastroenterology Clinic, Sarawak General Hospital <i>M Kok, K S Khaira, S Y Soon</i>	37
P15	Does the Clinical Rockall Score Predict Upper Gastrointestinal Rebleed During Hospitalization in the Malaysian Population of Sabah? <i>S K Chin, J Menon, G Khuneswari, H J Zainodin, M H Chong, S K Menon, H Singh, M Raman</i>	39
P16	Does the Clinical Rockall Score Predict Mortality During Hospitalization in Upper Gastrointestinal Bleed in the Malaysian Population of Sabah? <i>S K Chin, J Menon, G Khuneswari, H J Zainodin, M H Chong, S K Menon, H Singh, M Raman</i>	40
P17	Tripling Erythropoietin Requirements Significantly Reduces Packed Red Cell Transfusion Requirement During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients <i>B P Ooi, M Z Faizal, M Radzi, C H Ching, I Ahmad, K K Kiew, K L Chin</i>	41
P18	Optimizing and Increasing Erythropoietin Dose Significantly Reduces Pack Cell Transfusion Requirement During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients <i>B P Ooi, M Z Faizal, M Radzi, C H Ching, I Ahmad, K K Kiew, K L Chin, S Rampal</i>	42
P19	Effect of Increasing Erythropoietin Doses on Hemoglobin Levels During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients <i>B P Ooi, M Z Faizal, M Radzi, C H Ching, I Ahmad, K K Kiew, K L Chin, S Rampal</i>	43
P20	Acid Perfusion (Bernstein) Test Positivity: Comparison Between Patients with Reflux Esophagitis, Non-Erosive Reflux Disease and Healthy Controls <i>J L Hartono, C S Qua, C H Wong, K L Goh</i>	44
P21	Study of the Prevalence of Irritable Bowel Syndrome in a Private Medical University <i>S T Kew, K Yothasamutr, C W Saw, S H Hashim, H C Ong, K Raman</i>	45
P22	A Review of Gastrointestinal Stromal Tumour in Hospital Teluk Intan <i>L M A Loo, P L Vasu, B Salahudin</i>	46
P23	Symptomatic Outcome Following Laparoscopic Anterior 180° Fundoplication: Our Initial Experience <i>S Kumaresan, A Sudirman, P Kandasami, G Ramesh</i>	47
P24	Gallbladder Empyema: Five Years Experience in Tuanku Ja'afar Hospital <i>D T Mahadevan, S Kumaresan, H M Arfah, P Selvindoss, P Kandasami, A Sudirman, G Ramesh</i>	48

CONTENTS**Page**

P25	Risk Factors for Erosive Oesophagitis and Non-Erosive Reflux Disease in Patients with Hiatus Hernia <i>D T Mahadevan, K Pabrinder, S Kumaresan, P Kandasami, G Ramesh</i>	49
P26	Barrett's Esophagus: A Comparasion Between Endoscopy and Histological Diagnosis <i>T Mohanaraj, S Kumaresan, A Sudirman, P Selvindoss, P Kandasami, G Ramesh</i>	50
P27	Efficacy and Safety of Histoacryl Injection in the Treatment of Bleeding Post-Banding Ulcers <i>D Khoo, S Sharmila, S S Tan, A Asmarani, Y M Chan, O K Tan, O Haniza, I Merican</i>	51
P28	Pattern of Colorectal Carcinoma in 124 Cases in North-Western Peninsular Malaysia <i>C K Loong, K Gurjeet, N Nik Raihan, M Radzi, W Khamizar, S Subathra, S K Lee, B Hisham</i>	52
P29	Is Bowel Preparation Better Given at Home or in the Ward? <i>K L Chin, B P Ooi, M Z Faizal, I Ahmad, K K Kiew, M Radzi</i>	53
P30	The EQ-5D (EUROQOL) is a Valid Generic Instrument for Measuring Quality of Life in Patients with Dyspepsia <i>M Sanjiv, H L Wee, K L Goh, T Julian</i>	54
P31	Quality of Life in South East Asian Patients Who Consult for Dyspepsia: Validation of the Short Form Nepean Dyspepsia Index <i>M Sanjiv, H L Wee, K L Goh, T Julian</i>	55
P32	The Identification of NOD2/Card15 Mutations in Malaysian Patients with Crohn's Disease <i>K H Chua, H Ida, C C Ng, T L Eng, P Shanathi, W S Lee, K L Goh</i>	56
P33	Short Term Naso-Gastric Feeding in Hospitalised Patients with Advanced Cirrhosis: Preliminary Data from a Randomised Trial <i>M L S Tai, M Sanjiv, H Siti, S Rampal, K L Goh</i>	57
P34	Colonoscopy Outcome and the Predictive Factors in HRPZ II, Kota Bharu from July 2007 till December 2007 <i>K P Rajesh, R Reynu, S Rosemi, M Farridah</i>	58
P35	Yield of EUS FNA from a Newly Established Centre <i>H S Wong, A George</i>	59
P36	EUS FNA of Large Intra-Abdominal Lymph Nodes – An Asian Experience <i>A George, R Ponnudurai</i>	60
P37	Clinical Utility of the ¹³ C-Methacetin Breath Test (MBT) in Diagnosing Liver Fibrosis and Cirrhosis <i>R Hamizah, M Nurhayaty, L M S Tai, A S Shamsul, S Mahadeva</i>	61
P38	Malnutrition in Cancer of the Gastrointestinal Tract <i>R B Hisham, N H Zubaidah, Y A Gul</i>	62
P39	Quality of Life Assessment in Malaysian Ostomates <i>R B Hisham, M S Salmi, N H Zubaidah, Y A Gul</i>	63
P40	Ano-Coccygeal Support in the Treatment of Idiopathic Chronic Posterior Anal Fissure (ICPAF): A Clinical Evaluation <i>Tikfu Gee, R B Hisham, M F Jabar, Y A Gul</i>	64
P41	EUS Guided Pseudocyst Drainage: A New Modified Approach <i>A George, I A Rizal</i>	65
P42	Late Presentation of Esophageal Cancer in a Multiracial South East Asian Population <i>A A Karim, M Abdullah, K L Goh</i>	67

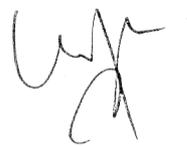
PREFACE

GUT 2008 - Annual Scientific Meeting of Malaysian Society of Gastroenterology and Hepatology

We are pleased to publish once again the abstracts of GUT 2008 - the Annual Scientific Meeting of the Malaysian Society of Gastroenterology and Hepatology (MSGH) in a supplement of the Medical Journal of Malaysia. The annual GUT meeting provides a platform for all members to present their research work over the past one year. The MSGH has continuously strove to encourage and stimulate interest in research work either clinical or basic research in the field of gastroenterology and hepatology. To this end, the MSGH has awarded research funding awards and also hold, yearly, a Young Investigator's Award session at the GUT meeting. Recipients of the research awards are asked to present their findings at the GUT meeting, abstracts of which are published in the supplement. We are also pleased to be able to include abstracts of our invited speakers, all of whom are top class experts in their respective fields.



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The Use of Biologics in Inflammatory Bowel Disease

Rupert Leong

Director of Endoscopy, Concord Hospital and Conjoint Associate Professor in Medicine, University of New South, Wales, Sydney Australia

SUMMARY

A substantial proportion of IBD patients develop complications and as such, there is a growing need for more potent medical therapy. Biologics are becoming a mainstay of treatment in patients with more severe Crohn's disease and ulcerative colitis. There is a trend that anti-tumour necrosis factor (TNF) agents are given regularly for maintenance of remission and earlier in the course of disease to alter its natural history. The ability of these drugs to achieve mucosal healing is unsurpassed and using rheumatoid arthritis as an example, there is growing interest in using a "top-down" approach. These drugs can be cost effective directly by reducing hospitalisation and surgery, and indirectly through reducing work-absenteeism and improving quality-of-life. The challenge with using these

agents include the risk of opportunistic infections especially tuberculosis. Isoniazid prophylaxis may be helpful in the high risk group with relevance particularly in Asia and pre-treatment screening for TB and HBV is pertinent in this region. The risk of lymphoma and role for concurrent immunosuppressants need to be considered. However, long term registry data suggests that anti-TNF drugs are safe when used properly. The selective adhesion molecule inhibitor natalizumab is the second type of biologic agent approved for use for Crohn's disease in USA and may find utility in those who do not respond, are intolerant to or complicated by anti-TNF agents. It is expected other biologic agents with different targets to be available in the near future allowing the potential for a multi-targeted approach to treatment in IBD.

Ulcer Bleeding: What You Really Want to Know

Sydney Chung

Visiting Professor, National University of Singapore, Singapore

SUMMARY

Patients with upper gastrointestinal haemorrhage should be endoscoped early so that an accurate diagnosis can be made, the bleeding point located, the rebleeding risk estimated and endoscopic haemostasis carried out if indicated. Adrenaline injection is safe, inexpensive and effective in stopping active bleeding, but it does not cause permanent sealing of the eroded artery and if used alone is associated with a high rebleeding rate. Adding another modality (sclerosants, thermal devices, clips), i.e. dual therapy, after the active bleeding is controlled is now the most popular method of endoscopic haemostasis. Arteries over 2mm in size cannot be reliably controlled by thermal devices. The reported results of endoscopic clipping are mixed as the device can be

difficult to use in certain locations. Endoscopic suturing has not yet been used clinically in bleeding ulcers. After endoscopic haemostasis treatment with high dose intravenous proton pump inhibitors stabilizes the blood clot in the eroded artery and reduce the rebleeding rate. Mortality for emergency surgery for ulcer bleeding is high, as those who rebleed and require emergency surgery tend to be elderly with co-morbidities and bleeding from large ulcers in technically challenging locations. Angiographic embolisation in this situation is promising but has not been compared to surgery in a randomized controlled trial. After the bleeding is stopped, eradication of *Helicobacter*, withdrawal of NSAID or co-prescription of PPI are measures that should be taken to reduce recurrence.

Helicobacter Pylori – Is it Relevant in Current Clinical Practice?

David Y Graham, Michael E DeBakey

VA Medical Center and Baylor College of Medicine, Houston, Texas, USA

SUMMARY

Helicobacter pylori's niche is the human stomach. It is worldwide in distribution and is one of the last major parasites that has accompanied humans on their various migrations. The infection causes progressive damage to the stomach that causes structural and functional abnormalities that may eventually lead to gastric atrophy. In Western countries the presentation changed from primarily being associated with gastric ulcer and gastric cancer to being the major cause of duodenal ulcer. In other regions the older pattern still prevails and gastric cancer is common. The infection is generally acquired in childhood and is followed by a long latent period. Clinical disease (peptic ulcer or gastric cancer) occurs in approximately 20% of those infected. The primary event in the pathogenesis of *H. pylori*-related disease is the presence of a chronic inflammatory response. The different clinical outcomes of an infection

reflect the extent and localization of the inflammatory responses which in turn are influenced by the virulence of the strain, the host's genetics, and environment factors, especially diet. The worldwide consensus is that *H. pylori* is a pathogen and that all infections discovered should be treated. The indications for testing include dyspepsia, the presence or history of a peptic ulcer, first degree relatives of patients with gastric cancer, post endoscopic resection of early gastric cancer, long term proton pump inhibitors, long term use of aspirin/NSAIDs, presence of atrophic gastritis, and desire to be tested. The model is syphilis another chronic infection with a long latent period and bad outcomes. The prevalence of the infection in the population dictates whether it is cost effective to screen. In the West the prevalence of *H. pylori* and syphilis is below that threshold but diagnostic tests are done whenever either is suspected and treatment is given whenever either is identified.

Plausible Solutions for Impossible Problems

Pali Hungin

Dean of Medicine and Head of the School for Health, Durham University, United Kingdom

SUMMARY

Despite advances in knowledge and therapeutics our understanding of the true nature of disease has not kept pace with our patients' needs. In virtually every sphere of medicine patients present with unexplained problems and symptoms for which we have no effective remedies. In gastroenterology, the functional disorders represent a massive challenge. Although we can categorise some of these problems, such as irritable bowel syndrome, our real understanding of the origins of such problems is very limited and our response is largely hopeless. Such patients now constitute the majority of consultations in most specialties – if we cannot respond effectively, we need to ask whether our

models of understanding such problems are a hindrance rather than a help. Indeed, have we boxed ourselves in with seemingly convenient syndromes which do not actually link with an understanding of disease and dysfunction? Also, can we assume a drug as being useful only if it outperforms a placebo and how acceptable and honest is it to prescribe a placebo? In this presentation, Professor Hungin will explore our understanding of the nature of difficult to explain disorders and ask whether we might serve our patients better using a different approach, i.e. one that is less dependent upon our biomedical model of explanation. This might be more effective in clinical practice.

Challenges and Future Perspectives in the Treatment of Chronic Hepatitis B

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SUMMARY

Nowadays, peginterferon and nucleos(t)ide analogs are the mainstays of treatment for chronic hepatitis B. Peginterferon has the advantage of a finite period of treatment. On long-term post-treatment follow-up, the response to peginterferon is sustained. However, only approximately 30% of patients may benefit from the peginterferon treatment. Nucleos(t)ide analogs are very potent in suppression of viral replication, but the timing of stopping treatment is a major dilemma. According to the American and Asia-Pacific consensus statements, HBeAg seroconversion for 6-12 months is a must before anti-viral drugs can be stopped in HBeAg-positive patients. As only approximately 50% of patients will undergo HBeAg seroconversion and a 50% of Asian patients will have disease relapsed after treatment cessation, approximately 75% of HBeAg-positive patients will need long-term anti-viral agents. For HBeAg-negative patients, there is no agreement

among the various guidelines on when to stop treatment. HBsAg seroconversion may be a safe endpoint. As only 5% of HBeAg-negative patients will undergo HBsAg seroconversion in five years, approximately 95% of patients will need long-term treatment. For extended use of nucleos(t)ide analogs, drug resistance is a major management concern. Salvage treatment of drug resistance may be difficult due to cross-resistance, lowering of genetic barrier to resistance and compensatory mutations. Mutations at rt204 and rt181 are the two most important sites for cross-resistance among different nucleos(t)ide analogs. On-treatment HBV DNA response following the road-map concept has been suggested to guide the use of anti-viral agents, but the evidence on the treatment efficacy of suboptimal responders is lacking. Most patients may require long-term treatment with nucleos(t)ide analogs with potent viral suppression and high genetic barrier to resistance.

Challenges and New Perspectives in the Treatment of Viral Hepatitis C

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SUMMARY

Basic principles for treatment of chronic HCV:

1. A sustained virologic response (SVR) can only be achieved if:
 - a. The patient first becomes HCV RNA undetectable during treatment.
 - b. The patient remains HCV RNA undetectable throughout the remainder of treatment.
 - c. The patient does not relapse after treatment is stopped.
2. The sooner the patient becomes HCV RNA undetectable after treatment has been initiated the lower is the likelihood of relapse and the higher the rate of SVR.
3. Monitoring HCV RNA at regular intervals is the only way to determine if and when the patient becomes HCV RNA undetectable and defines the duration of treatment that patients require to minimize relapse and optimize SVR.

Recognizing the virologic response pattern

It is critical that the specific virologic response pattern achieved by each patient undergoing HCV treatment be defined. This will help explain why the patient did or did not become HCV RNA undetectable during treatment and if SVR can be achieved during the initial treatment or during retreatment.

1. Early virologic response:

Early virologic response (EVR) was the first response pattern to be defined many years ago. These patients have a 2 log reduction in HCV RNA from the pretreatment baseline or are HCV RNA undetectable within 12 weeks after the initiation of peginterferon and ribavirin. Patients without EVR rarely if ever achieve SVR. As a result, the failure to achieve EVR (by week 12) is an indication to stop treatment.

It is now recognized that patients with EVR can be further subdivided into rapid, complete early and slow to respond based upon what week during treatment HCV RNA first

become undetectable. Defining when HCV RNA becomes undetectable is important because this more than anything else defines the chance of achieving an SVR.

a. Rapid virologic response:

A rapid virologic response (RVR) occurs when HCV RNA becomes undetectable within four weeks after the initiation of peginterferon and ribavirin therapy. This response pattern occurs in about 15% of patients with genotype 1 and 66% of patients with genotypes 2 and 3. The SVR in these patients is 90% regardless of genotype.

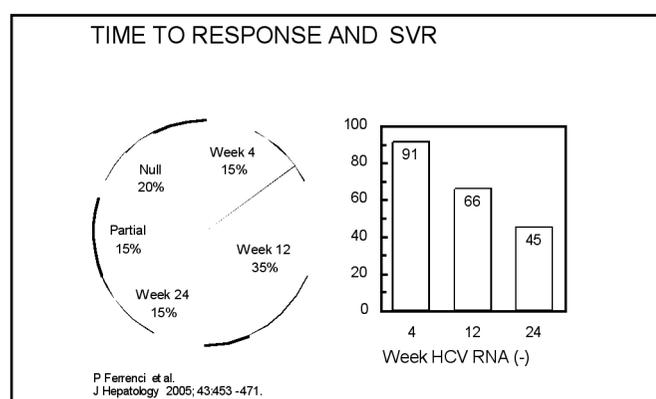


Fig. 2: Genotype I

b. Complete early virologic response:

HCV RNA becomes undetectable between weeks 4 and 12 after the initiation of peginterferon and ribavirin therapy. This response pattern occurs in about 35% of patients with genotype 1 and 31% of patients with genotypes 2 and 3. For patients with genotype 1 the SVR in these patients is about 66%. For patients with HCV genotypes 2 and 3 the SVR rate is only 50%. The reason for the lower response rate in genotype 2-3 patients with cEVR is that these patients have typically received only 24 weeks of treatment as opposed to 48 weeks for patients with genotype 1. The shorter therapy in genotypes 2-3 results in a higher relapse rate (see Section C.3).

c. Slow to respond:

A patient that is slow to respond becomes HCV RNA becomes undetectable between weeks 12 and 24 after the initiation of peginterferon and ribavirin. This response pattern occurs in about 15% of patients with genotype 1. It is very uncommon for patients with HCV genotypes 2 or 3 to become negative this late in the course of treatment. Patients who are slow to respond have an SVR of only 45% or lower.

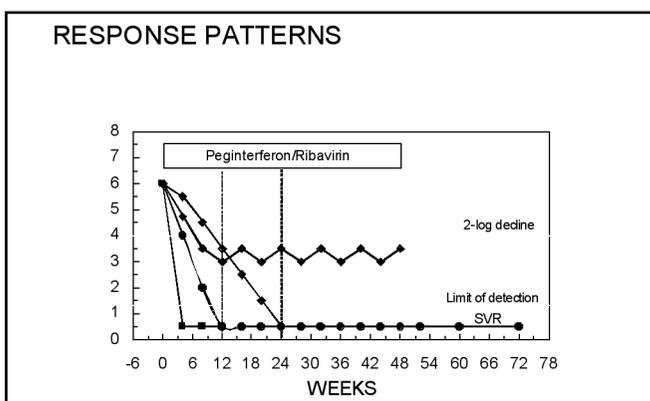


Fig. 1: Early virologic response

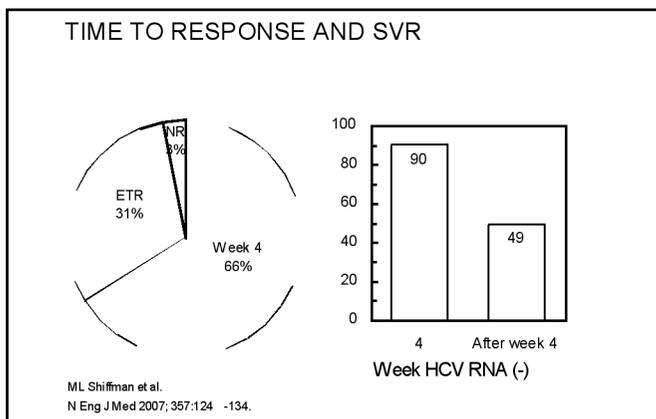


Fig. 3: Genotype 2 and 3

d. Partial virologic response:

Patients with a partial virologic response achieve an ETR, they have a 2 log decline in HCV RNA by treatment week 12, but they fail to become HCV RNA undetectable with continued treatment. Since these patients do not become HCV RNA undetectable they cannot achieve a SVR. Treatment should therefore be discontinued in patients with a partial virologic response by week 24. Thus, HCV RNA should be measured at week 24 in all patients who are not HCV RNA undetectable by week 12.

Assessing and preventing relapse

The failure of a patient to achieve SVR after they have become HCV RNA undetectable is the result of breakthrough and relapse. Preventing breakthrough and relapse is therefore the most important thing to do once a patient has become HCV RNA undetectable. The relapse rate is directly related to how quickly the patient becomes HCV RNA undetectable and how long the patient remains on treatment after they have become HCV RNA undetectable. Patients with a RVR have a very low rate of relapse with just 24 weeks of treatment; less than 5-10%. Patients who become HCV RNA undetectable between weeks 4-12 have a higher rate of relapse, approximately 10-20%. Patients who are slow to respond have a relapse rate of 50% or greater.

1. *Patients with rapid response require only 24 weeks of treatment:*

Patients with RVR are very sensitive to peginterferon and ribavirin treatment. Patients with HCV genotypes 2 or 3 have an SVR of 90% when treated for only 24 weeks. Patients with HCV genotype 1 have an SVR of 90% when treated for 48 weeks. However, it is likely that patients with genotype 1 and a RVR could also be treated for 24 weeks. Two studies (one retrospective and 1 prospective) have now demonstrated that patients with genotype 1 and a RVR can achieve the same high SVR rates, approximately 90%, when treated for just 24 weeks.

Some studies have suggested that the duration of treatment could be reduced to less than 24 weeks (12-16 weeks) in genotype 2-3 patients with RVR. However, a large study has demonstrated that reducing the duration to less than 24 weeks increases relapse.

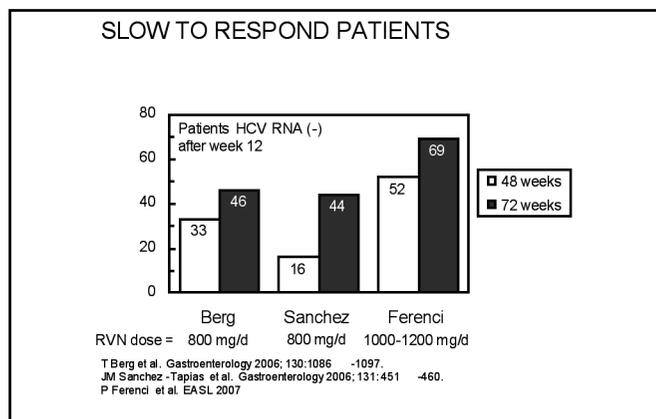


Fig. 4: Extending therapy

2. *Patients who are slow to respond require longer than 48 weeks of treatment:*

Patients who are slow to respond and become HCV RNA undetectable after week 12 and have a very high rate of relapse. Five studies have now demonstrated that this high rate of relapse can be significantly reduced if the duration of treatment is prolonged to 72 weeks.

3. *Prolonging treatment to 48 weeks in patients with HCV genotypes 2 and 3:*

Patients with genotypes 2-3 who do not achieve a RVR also have a high rate of relapse. The major reason for this is that they are treated for an insufficient amount of time. A retrospective study has demonstrated that the relapse rate can be reduced by 50-75% and SVR can be increased to 80-90% in these patients if the duration of therapy is prolonged to 48 weeks. A prospective study evaluating this concept is currently underway.

Future treatment of chronic HCV with STAT-C drugs:

Specifically Targeted Anti-viral Therapy for hepatitis C (STAT-C) drugs, both protease and polymerase inhibitors, are currently being developed and evaluated for the treatment of chronic HCV. These agents when combined with peginterferon and ribavirin yield to rapid clearance of HCV RNA and a virologic response pattern consistent with a RVR. In phase 2 clinical trials the relapse rate of patients with a RVR with STAT-C therapy was less than 5% after just 24 weeks of treatment. It is estimated that SVR rates of 65-70% will be achieved with a STAT-C agent, peginterferon and ribavirin. Two Stat-C drugs are entering phase 3 clinical trials in the summer-fall of 2008.

REFERENCES

1. Ferenci P, Fried MW, Shiffman ML, Smith CI, Marinos G, Goncales FL Jr, Haussinger D, Diago M, Carosi G, Dhumeaux D, Craxi A, Chaneac M, Reddy KR. Predicting sustained virological responses in chronic hepatitis C patients treated with peginterferon alfa 2a (40KD)/ribavirin. J Hepatol 2005; 43: 453-71.
2. Sánchez Tapias JM, Diago M, Escartín P, Enríquez J, Romero Gómez M, Bárcena R, Crespo J, Andrade R, Martínez Bauer E, Pérez R, Testillano M, Planas R, Solá R, García Bengochea M, García Samaniego J, Muñoz Sánchez M, Moreno Otero R; TeraViC 4 Study Group. Peginterferon alfa2a plus ribavirin for 48 versus 72 weeks in patients with detectable hepatitis C virus RNA at week 4 of treatment. Gastroenterology 2006; 131: 451-60.
3. Shiffman ML, Suter F, Bacon BR, Nelson D, Harley H, Solá R, Shafran SD, Barange K, Lin A, Soman MSA, Stefan Zeuzem SB. 16 versus 24 weeks of peginterferon alfa-2a plus ribavirin for patients with HCV genotypes 2 or 3 infection. N Eng J Med 2007; 357: 124-34.
4. Jensen DA, Morgan TR, Marcellin P, Pockros PJ, Reddy KR, Hadziyannis SJ, Ferenci P, Ackril AM, Willems B. Early identification of HCV genotype 1 patients responding to 24 weeks peginterferon alfa-2a/ribavirin therapy. Hepatology 2006; 43: 954-60.

Portal Hypertension: Pharmacotherapy

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SUMMARY

This session will carry out an evidence-based discussion on the status of various of drugs in the treatment of complications of portal hypertension, paying specific attention to the issue of oesophagogastric varices.

Oesophageal Varices

Pre-primary prophylaxis.

This refers to the prevention of development of varices before they are formed. Current evidence suggest there is no role in non-selective beta-blockers.

Early-primary prophylaxis

This refers to prevention of small varices from progressing to larger varices. Data, although, limited suggest treatment with non-selective beta-blocker is beneficial.

Primary prophylaxis

This refers to prevention of first variceal haemorrhage. Non-selective beta-blocker improves mortality and reduces risk of first bleed. It is not as good as band ligation in reducing first variceal bleed; this is best reserved for larger varices. There is no role for venodilating nitrates as monotherapy or as combination treatment.

Acute bleeding

The use of vasopressin analogues or somatostatin analogues, and empirical antibiotics contribute to improved control of bleeding and improved survival respectively. Endoscopic haemostasis remains vital.

Secondary prophylaxis

This refers to the prevention of variceal re-bleeding. Although pharmacotherapy is superior to no treatment, it is inferior to variceal band ligation in preventing rebleeding. The addition of non-selective beta-blocker to banding improves outcomes. The role of combination pharmacotherapy (nitrates and beta-blocker) is unclear based on present studies.

Gastric Varices

Although data are scarce for the longest of time on this important topic, recent studies have addressed the issue of secondary prophylaxis of gastric variceal bleed. The role of pharmacotherapy is limited; the main modes of treatment are injection sclerotherapy and transjugular intrahepatic portal systemic shunting (TIPSS).

Role of TIPS in the Treatment of Portal Hypertension

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SUMMARY

The management of portal hypertension has undergone significant changes in the last three decades, with advances in medical, endoscopic and interventional radiologic treatment options. Many methods have been incorporated in treating the serious and life-threatening complications of advanced liver disease. The transjugular intrahepatic portosystemic shunt (TIPS) is one such treatment option. The TIPS is a radiologically created portosystemic shunt (specifically a portocaval shunt) that involves creation of a conduit between the portal vein and hepatic vein within the liver substance. TIPS was conceived as early as 1969, when Rösch reported this method in a series of dog experiments using Teflon tubes as stents. It has since then matured from an experimental procedure to an established technique and has replaced surgical shunts in most centers where it is available.

Technique of TIPS

TIPS are created in the interventional radiology suite, with facilities for high-resolution fluoroscopy, digital subtraction and continuous hemodynamic monitoring.

The procedure involves many steps: (1) puncture of the jugular vein, (2) cannulation of the hepatic vein, (3) penetration of a long needle from the cannulated hepatic vein, through liver parenchyma into the portal vein, (4) dilatation of the parenchymal tract created by the needle with an angioplasty balloon, and (5) stent deployment to ensure patency of the tract. Usually an 8-10 mm diameter stent is chosen to adequately decompress the hypertensive portal circulation, to achieve a final portosystemic gradient of less than 12mm Hg.

Indications for TIPS

Based on the available data, accepted indications for TIPS include:

1. Acute variceal bleeding unresponsive to endoscopic and medical therapy;
2. Recurrent variceal bleeding unresponsive to endoscopic or medical therapy;
3. Ectopic variceal bleeding (e.g., bleeding from stomal varices, anorectal varices, duodenal varices, caput medusae, etc.) not amenable to endoscopic intervention;
4. Ascites resistant or intolerant to optimal medical therapy;
5. Hepatic hydrothorax resistant or intolerant to optimal medical therapy;
6. Budd-Chiari syndrome;
7. Non-variceal bleeding secondary to hypertensive gastropathy / enteropathy.

Additional indications have been described in case reports and small case series. These newly described indications include hepatorenal syndrome, hepatopulmonary syndrome, and mesenteroportal vein thrombosis.

Contraindications to TIPS

All forms of portal decompression (surgical or percutaneous) increase right atrial pressure, cardiac output and cardiac index.

Similarly, they deprive the liver of a fraction of nutrient portal flow in order to achieve pressure reduction. Portosystemic shunts are contraindicated in patients who cannot tolerate these hemodynamic changes. These include patients with heart failure, severe pre-existing hepatic encephalopathy, and severe hepatic failure.

Relative technical contraindications include (note that TIPS have been created in all these settings): polycystic liver disease, portal vein thrombosis with cavernomatous transformation, extensive primary or metastatic liver malignancy, and unrelieved biliary obstruction.

Results of TIPS

1. Overall Results: The technical success is above 95% at most centres. The procedure is generally safe, with a procedural mortality of <1%. The 30-day mortality ranges from 3-44%, almost entirely attributable to patient selection and their pre-TIPS condition. Most mortality is from worsening liver function, sepsis or multiorgan failure. This rate is minimized by appropriate case selection; patients having an elective TIPS with compensated liver function respond much better than patients having an emergent TIPS with severe hepatic decompensation. Various parameters have been used in identifying such patients, such as the Acute Physiology and Chronic Health Evaluation (APACHE II) score, serum bilirubin levels, modified Child-Pugh score and Model for End-stage Liver Disease (MELD) score.
2. Control of bleeding: TIPS can control active or recurrent variceal bleeding in 81-96% of patients. In several randomised clinical trials comparing TIPS to endoscopic therapies (ET), the mean rate of variceal rebleeding after TIPS was 32% lower than that of endoscopic therapy; mean rates of rebleeding for TIPS and ET were 17% (range 9-24%) and 49% (range 24-66%), respectively, while encephalopathy rates were understandably higher in the TIPS group: 33% versus 17% for ET. Average mortality at one year proved indistinguishable in both groups (approximately 23%), although one series by Garcia-Villareal demonstrated one- and two-year actuarial survival benefits for TIPS patients.
3. Control of ascites: The literature evaluation using TIPS for the treatment of refractory or recurrent ascites is less well developed, although this has become the predominant indication of TIPS in most hospital practices. An important randomised trial was published by Rossle et al, in which 60 patients underwent repeated large volume paracentesis versus TIPS. At three months, 61% of the TIPS patients were free of ascites compared with 18% in the paracentesis group. Interestingly, encephalopathy rates were similar in both groups. In addition, survival without liver transplantation was statistically better in the TIPS group at both one and two years (69% and 58% TIPS versus 52% and 32% paracentesis). Their findings suggest

that patients meeting the profiles of those reported should undergo TIPS rather than repeated paracentesis because of better treatment outcomes and survival.

These authors also documented improvements in creatinine in their patients, findings that several groups have previously described in careful analyses of the haemodynamic, physiologic, and hormonal effects of TIPS. It appears that TIPS can profoundly affect the hepatorenal axis by improving renal blood flow, glomerular filtration rates, and sodium handling, and by correcting the hyperaldosteronaemic and hyperadrenergic states in cirrhotic patients with refractory ascites. These findings have, in part, spurred the use of TIPS in patients with hepatorenal syndrome, and improving their survival which is otherwise abysmal.

4. Budd-Chiari syndrome: Budd-Chiari syndrome results from obstruction to the venous outflow from the liver. Most of the cases in Asia are due to membranous obstruction of the inferior vena cava and/or hepatic veins, which are best managed by angioplasty and stenting of the occluded vessel. At times, however, the hepatic vein thrombosis is very extensive, precluding angioplasty. In such cases, TIPS is proving to be effective at reversing hepatic congestion, reducing the stimulus to hepatocyte necrosis, and retarding the progression to cirrhosis.

Creating TIPS in BCS patients can be technically challenging because of hepatic vein thromboses, enlarged swollen livers, and hypercoagulability that causes acute shunt thrombus formation. We have followed BCS patients who had undergone TIPS with shunt venograms and liver function tests and have confirmed maintenance of reduced portal venous pressures, absence of ascites, and most importantly, a sustained improvement in the liver function.

Complications of TIPS

1. Major procedural complications are rare, occurring in less than 1% of cases. These include hepatic laceration, hepatic arterial injury, haemoperitoneum from extrahepatic portal vein puncture, and inadvertent intra-abdominal organ injury.
2. Shunt malfunction: Shunt malfunction, secondary to shunt stenosis or occlusion, is the commonest cause of recurrent portal hypertension in patients that have undergone TIPS. A complex process of pseudointimal proliferation, where a layer of tissue migrates through the stent interstices and reduces or occludes the shunt lumen, causes shunt stenosis. The mechanism of this proliferation is poorly understood, and is probably related to bile seepage into the TIPS.

This results in primary TIPS patency rates of 25-66%, 5-42%, 21%, 13% and 13%, at 1, 2, 3, 4 and 5 years respectively. If a regular Doppler or angiographic surveillance of the TIPS is done, early shunt stenosis can be detected, and patency enhanced by a secondary balloon dilatation or restenting. The resulting primary assisted patency rates approximate 85%, 61%, 46%, 42%, and 36% at 1, 2, 3, 4 and 5 years respectively, and the cumulative secondary patency rates increase to 85-96% and 64-90% at 1 and 2 years respectively. However, it would mean reliable follow up, more interventions and a cumulative increase in expenditure incurred.

Improving TIPS patency using stent-grafts: Several animal studies and human trials have shown remarkable abilities of polytetrafluoroethylene (PTFE) lined stents to prolong TIPS patency, by preventing proliferation of tissue within the stent lumen, and by protecting the shunt from seeping bile. At present, only one such commercially manufactured TIPS device using PTFE is available (Viatron TIPS endoprosthesis, W. L. Gore and Associates), which has been in clinical use since 7 years. When compared with the regular uncovered stent, the PTFE-covered devices dramatically decrease the rate of shunt dysfunction (15% versus 44% at a mean of 480-day follow up). Expectedly, this is associated with a reduction of clinical relapses and the number of reinterventions. Also, there is a trend toward better 1-year and 2-year survival in the PTFE group, although not statistically significant. Many prospective studies have established the supremacy of stent-grafts; according to the largest published study by Hausegger *et al*, involving 71 patients, primary and secondary patency rates of 81% and 100% respectively, were achieved with the new TIPS device at one year. The patency improves further if the device is positioned accurately, covering the entire parenchymal tract and the hepatic vein through its junction with the IVC; restenosis rates drop to <5% in such cases. The clinical results have also been equally impressive, with a 30-day mortality of 10% and an overall mortality rate of 28% (mean follow up, 16 months). Given the compelling data from this study and various others published in later years, it would clearly define a trend of using the stent-grafts in the vast majority of TIPS.

3. Hepatic encephalopathy: Complications could also result from portosystemic shunting, and may appear immediately or as a delayed event following TIPS. As with surgical shunts, hepatic encephalopathy is fairly common after TIPS, occurring in 30-50% of patients. Most cases are mild and well controlled with medical management. Refractory encephalopathy can develop in 3-7% of patients, requiring either implantation of a "reducing stent" or alternatively, occlusion of the shunt.
4. Hepatic failure: Liver failure is one of the leading causes of death in patients undergoing TIPS. After TIPS insertion, there is significant portal flow diversion, and this change in portal hemodynamics often leads to a derangement of liver function, well demonstrated on the post-TIPS liver function tests. For patients with severe pre-existing liver damage, this decompensation will be much more pronounced and hence have a fatal outcome. Careful selection of patients for TIPS using the APACHE II, modified Child-Pugh, and MELD scores is critical in avoiding this complication.

CONCLUSION

Since its introduction into clinical practice almost two decades ago, TIPS has become a well accepted treatment option for patients with portal hypertension. Over these years the indications have become more precise, the technique more refined and there predictors of outcome better understood. The key developments over the last few years have been the introduction of stent-grafts that have vastly improved TIPS patency, and the establishment of criteria for better patient selection to improve long-term outcomes.

Surgery in Portal Hypertension

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SUMMARY

Portal hypertension may be defined as a portal pressure gradient of 12mm Hg or greater. It can be due to various causes and can be classified into prehepatic, hepatic and post hepatic causes, of which liver cirrhosis is the main cause.

Role of surgery in the management of portal hypertension can be divided into two main categories:-

a) Definitive

- Liver transplant in end stage liver disease
- Shunt surgeries in Extra hepatic Portal Vein Thrombosis

b) Salvage Therapy

- Gastroesophageal Variceal bleeding
- Refractory ascites
- Hepatic encephalopathy

Management of variceal bleeding and refractory ascites has been totally revolutionized in the past 50 years with the advent of effective endoscopic therapy, pharmacological therapy and TIPSS. Failure of such therapy becomes the indication for surgery, which is associated with high morbidity and mortality. Unfortunately there are subgroups

of patients who will benefit from surgery, such as in a situation where endoscopic and interventional radiological facilities are not available, geographical limitation, poor family support and potential problems with compliance with scheduled care. We must not forget that these are all temporary phenomena.

There are various types of shunt surgeries and devascularisation procedures. The shunt surgeries are divided into selective and non selective shunts. Generally the non selective shunt surgery like portocaval, mesocaval shunts and devascularization procedures are used in an emergency situation. The selective shunts are used in elective situations. The main problem with shunt surgery is hepatic encephalopathy.

The definitive role for surgery in portal hypertension is liver transplantation. This is the ultimate shunt for the treatment of end stage liver diseases which not only restores liver function but also resolves all other associated complications. Surgery in the management of portal hypertension has not vanished, however, only its role has changed.

Obesity – Overview of Treatment and Non-Surgical Treatment

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SUMMARY

Obesity, defined as body-mass index (BMI) ≥ 27.5 kg/m², is a growing health concern reaching epidemic proportions in many countries. Obesity has been associated with an increased risk for gastroesophageal reflux disease and colon cancer. We have shown that in the Singapore population, overweight and obesity increase the risk of pathologic gastroesophageal reflux (OR, 1.445; 95% CI, 1.030 to 2.026; P=0.002) and non-adenomatous colon polyp (OR, 2.907; 95% CI, 1.333 to 6.43; P=0.005). The obese are almost 3-fold more likely to develop esophagitis (OR = 2.91, 95% CI =1.2 – 7.0; P=0.18). Although weight loss in the obese has not been proven to reverse the risk for these diseases, it is a strategy worth looking into. Thus far, anti-obesity treatment has focused on suppressing appetite, increasing thermogenesis and altering absorption and/or metabolism of nutrients to create a negative energy balance. Dietary, behavioral and lifestyle modifications, with or without pharmacotherapy is often first-line intervention for the moderately obese (BMI 30 - 35kg/m²). Currently, two pharmacologic agents – orlistat (lipase inhibitor) and sibutramine hydrochloride (norepinephrine-serotonin reuptake inhibitor) – are in use for long-term treatment of obesity. Studies have shown that body weight decreased 7–10% after a 1-year therapy with either of these drugs. Other agents available for weight loss therapy are noradrenergic drugs, phentermine and

diethylpropion, but both are approved only for short-term treatment. Surgical options for weight loss are generally only recommended for those who are morbidly obese (BMI ≥ 40 kg/m²) although in some circumstances, surgery may be considered for borderline cases (BMI 35 -39.9 kg/m²) presenting with obesity-related high-risk comorbidities. Bariatric surgical procedures such as gastroplasty, vertical gastric banding and gastric bypass provide the most substantial and sustainable weight reduction. But as with any other surgical procedures, the risks of complications are there. Post operative mortality rate for bariatric surgeries is reported to range from 0.1% to 2% while rate of re-operations needed to overcome complications ranges from 6% to 9%. For those who are unsuitable or preferred not to opt for surgery, an endoscopically delivered silicon intragastric balloon to create artificial satiety is available. Placement of intragastric balloon has been reported to result in about 10% weight loss in the first three months. Our preliminary study on using the BioEnterics Intragastric balloon (BIB) for weight reduction in obese patients with histological evidence of non-alcoholic steatohepatitis showed that a combination of diet, exercise and BIB for six months provided a greater improvement of steatosis and necroinflammation (P=0.05) in these patients than could be achieved with a regime of diet and exercise alone.

Obesity: Surgical Options

D Lomanto

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SUMMARY

Morbid obesity carries major health hazards and reduces the quality of life. It is also life-threatening condition, since associate pulmonary, vascular, endocrine, and skeletal complications reduce life expectancy. Demographic studies show a recent increase in the prevalence of morbid obesity, especially among youth, essentially related to changes in nutritional behavior. It is and will be a major public health challenge during the coming years. According to the WHO, indications for surgical treatment is: BMI > 40 or patients with BMI > 35 with comorbidities while in Asia the indications are different due to the higher fat body content (BMI > 37.5 or BMI > 32.5 with comorbidities (hypertension, diabetes mellitus, rheumatoid disease, etc). Non surgical treatments for weight control have inconsistent success and a high rate of weight regain. Therefore, surgical options are increasingly considered in the treatment of morbid obesity. Two major categories of surgical procedures haven been considered: the first was based on generating malabsorption

(gastro-intestinal bypass) and the second on stomach volume restriction (gastric banding, gastroplasty, sleeve gastrectomy), that prevents massive food intake by providing early satiety. This are the most common procedures worldwide and in Asia. In fact: vertical banded gastroplasty (Mason), represented an acceptable compromise between long-lasting efficacy and low morbidity like the sleeve gastrectomy. On the same basis, the adjustable gastric band produced similar results in terms of weight loss, with a lower risk of life-threatening complications because there was no opening or suturing of the digestive tract. The laparoscopic approach brought major advantages in terms of safety and comfort. Success criteria are mainly health improvement and disappearance of cofactors of morbidity, during at least a 5-year follow-up. Data shows that 70% of obese diabetic patients diabetes returned to normal after surgery and same for hypertension. In conclusions, obesity surgery is the last reliable options to cure morbid obesity.

Current Status of Minimally Invasive Surgery

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SUMMARY

In the last two decades, *"invasiveness"* has been the focus of surgical practice gaining momentum because of better clinical outcome. This change was initiated with the advent of laparoscopic surgery. Because of the rapid acceptance and success of operations such as laparoscopic cholecystectomy, a revolution has taken place in general surgery and since then, several surgical operations using minimally invasive surgery (MIS) showed in many large series the advantages of the MIS over traditional *"open"* surgery (*less postoperative pain, shorter hospital stays and disability, cost-effectiveness*). Patient's acceptance was overwhelming and propelled the growth of minimally invasive surgery and further enhanced by the development of new high-tech instrumentation and devices as ultrasound shears, needlescopic surgery, high-frequency sealing devices, etc. The use of *"hand-assisted"* ports, in which a hand is inserted inside the abdomen to facilitate the surgical procedure and to provide tactile feedback. Advantages are in case of removal of large

specimen (*donor nephrectomy, splenectomy, gastric surgery, etc*). New technology like Robotic-assisted surgery extended the limits of MIS; robotic arms as in da Vinci System (Intuitive Surgical, USA), enhances dexterity, motion scaling, articulation and 3-dimensional vision. Benefits in complex procedures as prostatectomy and cardiac surgery are obvious. Lastly, Natural Orifice Surgery (NOS/NOTES) where the abdominal cavity is entered through stomach, vagina, etc has taken the stage. Preliminary experimental results showed several challenges but certainly will be a new big step toward *"less invasive is better"*; further technological development and clinical trials are mandatory to define its exact role. In conclusion, the merging of digital age and MIS has taken a prominent role in 20th century and the technological innovations in surgery are only beginning. The future will be very attractive, with enormous potential and may be the science fiction movies depicting robots replacing mankind may soon become a reality in surgery.

Minimally Invasive Surgery - Future Perspectives

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SUMMARY

Following the advances in diagnostic endoscopy in the 1970's, therapeutic endoscopy in the 1980's and laparoscopic surgery in the 1990's the next break-through in endoscopic treatment is likely to be in the form of endoscopic surgery through natural orifices (NOTES). The development of endoscopic mucosal resection (EMR) of early cancers may be considered the first step in this direction. Endoscopic submucosal dissection (ESD) of more extensive mucosal tumours was the next step. Ventures outside the confines of the lumen of the gastrointestinal tract began with endosonographically guided fine needle punctures for diagnosis and therapy, together with transgastric drainage of pancreatic pseudocysts and collections. Access to the peritoneal cavity through natural orifices rather than through the abdominal wall was met with a lot of skepticism in the beginning, but transgastric appendectomy and transvaginal cholecystectomy in humans, and a wide range of other operations in animal models, have already been

reported. Transluminal endoscopic surgery involves more intricate and precise operative maneuvers than are currently required for present day therapeutic endoscopy. If such procedures were to become popular and widely practiced, revolutionary changes in the design of endoscopes and accessories are necessary so that the task is manageable to surgeons in practice, rather than just a few enthusiasts. To perform the operation smoothly, the endoscopic surgeon needs to have precise control over the operating instruments and cannot rely on spoken instructions to his assistants. Such instruments also require many more degrees of freedom than is currently available with endoscopic instruments as the dexterous movements of the surgeon's hands must be reproduced. Safe closure of the site of puncture and anastomosis between parts of the gastrointestinal tract require development of efficient and reliable methods of endoscopic suturing. Significant progress has already been made in these directions to achieve the aim of "scarless surgery".

Evaluating and Treating Dyspepsia

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SUMMARY

Despite its common prevalence, defining and managing dyspepsia can be a problem. Over the last few years, researchers have tended to categorise gastroesophageal reflux disease (GERD) as a somewhat distinct entity from dyspepsia. The use of acid suppression drugs has also influenced our understanding and management of both GERD and dyspepsia. However, in the pragmatic clinical setting patients present with undifferentiated symptoms and not clear-cut diagnoses. Despite numerous attempts, these cannot be easily categorised to distinguish GERD from non-GERD; indeed the overlap of symptoms is so wide that GERD symptoms may even be the predominant presentation in someone with peptic-ulcer disease. It is not pragmatic to perform endoscopy in the majority of patients in order to reach a definitive diagnosis. Furthermore, the possibility of a significant lesion is relatively low in the younger patient.

Even of those endoscoped, the majority will have no abnormal findings and it is also becoming apparent that a large proportion of patients have GERD-like symptoms without abnormal levels of acid reflux. Many of these patients classified as having non-erosive reflux disease (NERD) will not respond to PPIs. Overall data indicate that a large proportion of patients with reflux-like symptoms will not respond to PPIs. This leaves a massive challenge in our management of such patients. These factors call for a review of our concepts of dyspepsia and GERD including a review of the role of acid suppression. This presentation will focus on the current approaches of describing and managing dyspepsia in the pragmatic clinical environment and highlight the limitations of acid suppression therapy, which was previously regarded as an easy solution to most problems.

Issues in the Diagnosis and Treatment of *Helicobacter Pylori*

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SUMMARY

The management of *Helicobacter pylori* has come a long way since its discovery in Perth more than 20 years ago. It is a unique infection causing a wide range of diseases ranging from inflammation to peptic ulcer disease and cancer. There is some evidence indicating its decline in many parts of the world including Asia Pacific region. Nevertheless, it remains an important disease and there are still much to be done. There are still some controversies in the management of *H. pylori*.

Issues in Indication to Treat

Many consensus guidelines have been published throughout the world for the management of *H. pylori* but many issues remained unresolved. Test and treat for *H. pylori* is appropriate in uninvestigated dyspepsia without any alarming symptoms. This statement is endorsed by the Maastricht III Consensus and the American College of Gastroenterology Guidelines. However, in areas with high prevalence of gastric cancer such as Asia, there is a concern about missing cancer and also the poor prediction of cancer with symptoms. This statement is appropriate in areas with low prevalence of gastric cancer and where endoscopy is not easily available.

In addition, test and treat approach for GERD is not routinely recommended as there is no clear evidence to support that eradicating *H. pylori* consistently worsens or improves GERD symptoms. In fact there is a negative association between *H. pylori* and GERD. There are studies to support eradicating *H. pylori* in patients receiving long term maintenance treatment with PPI as profound acid suppression may accelerate the process of atrophic gastritis. However, *H. pylori* eradication does not affect the outcome of PPI treatment in patients with GERD.

Despite extensive evidence to support a small but significant benefit of HP eradication in non ulcer dyspepsia, there are still regional differences in regulatory approval. Twelve to fifteen infected patients need to be treated to cure one patient with non ulcer dyspepsia. This will also reduce the risk of developing peptic ulcer disease, atrophic gastritis and gastric cancer in the long term.

In patients receiving long term NSAID with past history of peptic ulcer disease, HP eradication alone does not prevent ulcer recurrence and/or bleeding. Some patients will still require PPI co-therapy. However, in NSAID naïve patients, HP eradication reduces the risk of peptic ulcer and GI bleeding. This does not imply that every NSAID users should be tested and treated and the risk should be stratified. Similarly, treating HP in patients receiving long term low dose aspirin therapy and those who have a past history of GI bleed and perforation will reduce risk. There is however no evidence to support routine screening of HP before commencing aspirin therapy in those without prior GI complications.

Issues in the diagnosis

UBT and monoclonal stool antigen tests are accurate and appropriate non invasive test for confirmation of HP eradication.

Locally validated serological test is acceptable for use in test and treat strategy in uninvestigated dyspepsia in areas with high prevalence of HP infection. It should also be considered as a diagnostic test when others may produce false negative result, such as in patients with bleeding ulcer, gastric atrophy and MALT lymphoma. It may also be useful in patients with recent or current use of PPIs and antibiotics. PPI should be stopped for two weeks before performing a diagnostic test except serology test. Office based serological test is convenient but inaccurate and should be discouraged.

Although HP pathogenic factors have been shown to be relevant in studies causing more significant diseases, its role in the management of HP in general has not been helpful and therefore not recommended.

Issues in the treatment

The current recommended first line therapy for HP is PPI, clarithromycin and amoxicillin or metronidazole for seven days. Fourteen-day therapy confers limited advantage over the 7-day therapy in eradication rate although this is the recommended duration in the USA. However, the increasing resistance to clarithromycin and metronidazole has led to the reduce efficacy of PPI based triple therapy. This has led to the introduction of bismuth based quadruple therapy which has also been recommended as an alternative first line treatment. Sequential therapy consisting of a PPI and amoxicillin for five days followed by a PPI, clarithromycin and tinidazole for another five days provides an alternative but this needs to be validated. There are currently insufficient data to recommend this approach in Asia.

Salvage therapy includes triple therapy that has not been used previously, bismuth based quadruple therapy, levofloxacin based and rifabutin based therapy. This depends very much on local antibiotic resistance rate and the prevalence of TB for the rifabutin based therapy.

CYP2C19 polymorphisms may affect HP eradication rate in PPI based triple therapy. Choice of PPI and increasing the dosage is a more practical approach than genotyping in the clinical setting to overcome this. Finally, antimicrobial susceptibility testing is a useful and cost effective option.

HP and gastric cancer

H. pylori infection is the most common proven risk factor for human non cardia gastric cancer. The risk of gastric cancer development depends on bacterial virulence factors, host genetic factors and environmental factors. HP eradication prevents development of preneoplastic changes and has the potential to reduce the risk of gastric cancer development. The optimal time to eradicate HP is before preneoplastic changes are present, probably in early childhood. In areas with high prevalence of HP and gastric cancer, eliminating HP through improvements in public health and education will have the greatest impact in reducing the burden of gastric cancer.

Irritable Bowel Syndrome

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SUMMARY

Majority of Irritable bowel syndrome are encountered at primary health care level. It remains a challenge at every level to manage this condition, with no universally agreed treatment protocol. Represent a symptom complex comprising abdominal discomfort or pain associated with disturbed defecation, commonly associated with bloating. Being a syndrome, management of this condition always has a inconsistency outcome. Placebo response which can vary from 20 to 70% makes the treatment approach more complicated. However, some drugs and medications have shown substantial improvement in patients who seek medical attention. Some will pose doubts in medication proven to be beneficial as clinical trials are artificial setting. Any disease is best studied by understanding its pathophysiology and its relationship with the symptom manifestations. Until recently, the limited scientific knowledge about the pathophysiology of IBS has led to improvement in management care of IBS. Rationale of the available medications/drugs so far is very much based on the postulated aetiology of this functional disorder. Another commonly approach used by many primary care is symptom

based treatment. Counseling and spending some time talking to patient with IBS, with special focus on educating the nature of the disease and perhaps most importantly explaining that it is a benign condition will help to the certain extent to alleviate the symptoms and fear. Results of the most metaanalysis on fiber showed that soluble fiber (psyllium, isaphagula and calcium polycarbophil) is of benefit in alleviating IBS symptoms, while insoluble fiber is not. A meta analysis of antispasmodic agents suggests that the use of this class of drugs improves global symptoms in IBS and reduce pain but the anticholinergic drugs available are not without side effect, thus reduce the its efficacy. Opiod agonists are effective antidiarrheal agents. Meta analyses support the efficacy of antitricyclic antidepressants, e.g. Amytriptyline. The role of newer antidepressant agents e.g. Selective serotonin reuptake inhibitors still unclear. Tegaserod is efficacious in constipation-predominant IBS women. Alosetron is efficacious with diarrhea predominant IBS, but have to use in cautious due to reported side effect. Newer agents are in the pipeline and remain to be tried. IBS will remain as a syndrome till we fully understand its nature and pathophysiology.

The Risk Factors for Mortality, Recurrent Bleeding and Need for Surgery and the Use of Rockall Score in Non-Variceal Upper Gastrointestinal Bleeding at a University Hospital in the East Coast of Peninsular Malaysia

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SUMMARY

INTRODUCTION

Non-variceal upper gastrointestinal bleeding (NVUGIB) is associated with significant risk for mortality, recurrent bleeding and need for surgery. Identification of risk predictors and Rockall score are useful tools to determine the prognosis of this common condition in this area of Peninsular Malaysia.

MATERIALS AND METHODS

Two Hundred and Fifty patients with NVUGIB and undergone endoscopy who were admitted to Hospital University Sains Malaysia (HUSM) were enrolled between 2004 and 2006.

RESULTS

The mean age was 62.1±16 years. There were more males (n=144 or 57.6%) and Malays (n=209 or 83.6%). The mortality rate was 3.6% (9 patients), recurrent bleeding rate

was 9.6% (24 patients) and rate requiring surgery was 4.4% (11 patients). Most patients (85.2% or n=213) were in the low risk group (Rockall score ≤ 5). The high risk group (Rockall score >5) was significantly associated with mortality (p < 0.001), recurrent bleeding (p value = 0.01) and need for surgery (p = 0.013). Factor associated with mortality in multivariate analysis was sepsis (p=0.021, OR=9.9, 95% CI 1.413-69.513). Factor associated with recurrent bleeding in multivariate analysis was a higher creatinine level (p=0.012, 95% CI 1.0-1.0). Factors associated with the high risk group in multivariate analysis were stigmata of recent haemorrhage (p<0.001, OR=0.063, 95%CI =0.26-0.152), sepsis (p=0.013, OR=0.149, CI 0.034-0.664) and warfarin use (p=0.028, OR=0.182, CI = 0.040-0.832).

CONCLUSION

High risk group (Rockall score >5) was associated with a higher mortality, recurrent bleeding and need for surgery but not low risk group. Sepsis was found to be an important risk factor for a higher mortality and this should be studied further in a prospective study.

Response to Proton Pump Inhibitor Therapy - Comparison Between Patients with Erosive Gastroesophageal Reflux Disease and Non-Erosive Reflux Disease Based on Acid Perfusion Test Positivity

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SUMMARY

BACKGROUND

Based on endoscopic findings, Gastroesophageal Reflux Disease (GERD) can be divided into two broad categories: Erosive GERD (eGERD) and Non-erosive reflux disease (NERD). Both eGERD and NERD patients had been shown to have increased esophageal mucosal acid sensitivity which can be tested by Acid Perfusion (Bernstein) Test (APT). It had been shown that eGERD patients responded to Proton Pump Inhibitor (PPI) better than NERD patients; however the relation between APT and the response to PPI had not been evaluated.

OBJECTIVE

To determine the response to PPI and to assess the relationship of APT positivity to PPI therapy in symptomatic eGERD and NERD patients.

MATERIALS AND METHODS

Consecutive patients with eGERD and NERD were recruited from 15th July 2007 to 1st March 2008. All patients underwent upper endoscopy and APT as described by Bernstein. Symptomatic patients were given PPI (rabeprazole) 20mg twice daily for two weeks and the patients' reflux symptom score (RSS) and global improvement of reflux symptoms were then reassessed.

RESULTS

There were 24 symptomatic eGERD patients and 34 NERD patients in this study. There was significant improvement in RSS in eGERD (median RSS reduction 10.00, $p < 0.001$) and NERD patients (median RSS reduction 8.00, $p < 0.001$). Significantly higher proportion of patients achieved moderate to marked global improvement in reflux symptoms amongst eGERD patients compared to NERD patients (87.5% versus 55.9%, $p = 0.020$). Amongst eGERD patients, those with positive APT had significantly higher improvement in RSS (median RSS reduction 12.50 versus 6.50, $p = 0.007$) compared to those with negative APT. However, no such difference was observed among patients with NERD (median RSS reduction 8.00 versus 9.00, $p = 0.985$) warfarin use ($p = 0.028$, OR = 0.182, CI = 0.040-0.832).

CONCLUSION

Both eGERD and NERD patients responded well to PPI, however, eGERD subjects responded better than NERD patients. Among eGERD patients, those with positive APT responded better to PPI than those with negative APT.

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Mismatch Repair (MMR) Genes Expression Defects and Association with Clinicopathological Characteristics in Colorectal Carcinoma

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SUMMARY

OBJECTIVE

To determine the prevalence of MMR gene protein expression defects and its association with clinicopathological characteristics in colorectal carcinoma.

MATERIALS AND METHODS

Clinicopathological information was retrospectively obtained from pathology records of patients who underwent bowel resection for colorectal carcinoma. Immunohistochemistry (IHC) for MLH1, MSH2, MSH6 and PMS2 were performed on paraffin embedded tissue blocks from cancer with normal colon as positive control. Chi square or Fisher's Exact test was used to determine the association of abnormal MMR gene expression and clinicopathological variables.

RESULTS

A total of 124 patients and 126 colorectal carcinomas were studied. Three patients had synchronous tumours. Male to female ratio was 1.1: 1. Mean age was 60.5 (range 21 - 94 years). Rectum constituted the most common cancer site (44.4%). Histologically there were 88.1% (111/126) adenocarcinoma (no specific type), 10 mucinous, 3 signet ring and 2 neuroendocrine carcinomas. Histological differentiation of carcinomas comprised moderately differentiated 70.6% (89/126), well differentiated - 15.1% (19/126) and poorly differentiated - 6 cases. Most cancers were of Duke's stage C (50%) and B (41.3%). Twenty eight

(22.4%) carcinomas showed absent expression of any one of the MMR gene proteins. The breakdown of absence of protein expression was: MLH1 only - 3 cases, MSH2 only - 3, MSH6 only - 2, PMS2 only - 3, MLH1 and PMS2 - 14, MSH2 and MSH6 - 2 and MLH1, MSH6 and PMS2 - 1 case. Abnormal MMR protein expression was associated with proximal, mucinous, signet ring and poorly differentiated tumours. It was not associated with patient age, gender, ethnic group, presence of polyps or cancer stage. Absence of both MLH1 and/or PMS2 (20 cases) was associated with proximal, poorly differentiated, mucinous and signet ring carcinomas. A case of synchronous tumours in ascending and descending colon showed absence of MLH1, PMS2 and MSH6. Absence of MSH2 and/or MSH6 (7 cases) was more common in proximal and moderately differentiated adenocarcinomas. A case of synchronous cancers (caecum and rectum) in a 48-year old male showed absence of MSH2 and MSH6 protein.

DISCUSSION AND CONCLUSION

This study showed abnormal MMR gene protein expression in 22.4% of colorectal carcinomas, majority of which are probably due to sporadic (patient > 50 years old with MLH1 and/or PMS2 mutation) rather than inherited inactivation of MMR gene (younger age, MSH2 and/or MSH6 mutation). These cancers showed typical microsatellite instability high (MSI-H) phenotype. Distinction between familial and sporadic cancers can be determined by germline mutational analysis, hypermethylation studies and other tumour markers.

An Assessment of an Association Between Objective Colonoscopic Findings of Crohn's Disease with the Occurrence of its Specific Clinical Outcomes

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SUMMARY

OBJECTIVE

We sought to assess if objective colonoscopic features of Crohn's disease were associated with the occurrence of specific clinical outcomes over a long course of follow up.

MATERIALS AND METHODS

We conducted a retrospective cohort study of Crohn's disease patients who had colonoscopy at our institution, and who had at least three years of follow-up recorded in the medical record. Cases with less than three years of follow-up were excluded. The presence of the following colonoscopic risk factors was recorded: mild ulceration, severe ulceration, strictures and pseudopolyps. The following outcomes were recorded: hospital admission, surgery, fistula formation, cancer, and medication usage. Odds ratios (OR) and 95% confidence intervals (CI) were calculated for the association of the putative colonoscopic risk factors with the specified outcomes.

RESULTS

Fifty-two Crohn's disease patients who underwent colonoscopy and who had at least three years of follow up were identified. The following odds ratios were found:

The mean number of admissions was significantly greater in patients with strictures, 3.4 than those without strictures, 1.1, $p = 0.002$ (unpaired 2-tail t test).

CONCLUSION

We observed a trend towards the association of severe ulceration and stricture formation with the need for surgery or hospital admissions among Crohn's disease patients over a long period of follow-up. If these trends are confirmed in a larger cohort of patients, early aggressive pharmacological intervention in patients with severe ulcerations or strictures may prevent surgery and admissions.

Table

Risk Factors	Surgery needed	Admission needed
Severe ulcer	OR = 2.7, 95% CI = (0.6 – 12.1) p-value = 0.13	OR = 3.2, 95% CI = (0.7 – 15.7) p-value = 0.09
Stricture	OR = 3.3, 95% CI = (0.8 – 13.2) p-value = 0.052	OR = 2.4, 95% CI = (0.6 – 11.1) p-value = 0.17

A Randomized Study on the Use of Dexamethasone for Prevention of Nausea and Vomiting and Reduction of Pain after Laparoscopic Cholecystectomy

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SUMMARY

BACKGROUND

In patients undergoing laparoscopic cholecystectomy, high incidences of post operative nausea and vomiting have been reported. Nausea and vomiting resulted in significant morbidity and longer duration of stay in the hospital. Delay in discharge due to post operative nausea and vomiting are events that may counter the established benefits of laparoscopic cholecystectomy. Preoperative administration of dexamethasone during induction may reduce postoperative nausea and vomiting, as well as post operative pain following laparoscopic cholecystectomy.

MATERIALS AND METHODS

A randomized, single-blind, placebo-controlled trial was conducted on patients undergoing laparoscopic cholecystectomy between July 2004 until June 2006. Eighty-two patients were randomized to receive 8mg dexamethasone (n = 42) or placebo (n = 40). All patients were at least of ASA grade 1 and 2 and received standardized anaesthetic, surgical and analgesic treatments. Patients were observed every hour for the first 4- hours, and every 4 hourly for the next 20 hours. During observations, patients were asked on duration

of nausea and number of episodes of vomiting. Nausea was evaluated based on the duration of the symptom, whereas presence of vomiting was based on two possible answers (0=no, 1=yes). Pain was assessed using the visual analogue scale (VAS; 0=no pain, 10=most severe pain). The amount and frequency of analgesics requested, and administered, were also recorded.

RESULTS

Eight patients (19 percent) in the dexamethasone group reported nausea compared with nineteen (47.5 percent) in the placebo group (p < 0.005). Four patients (9.5 percent) in the dexamethasone group had vomiting and required antiemetics, compared with fifteen (37.5 percent) in the placebo group (p < 0.005). There was no difference in the postoperative pain scores.

CONCLUSION

Perioperative administration of dexamethasone reduces postoperative nausea and vomiting and is recommended for routine use in patients undergoing laparoscopic cholecystectomy.

Evaluation of Patients with Campylobacter Like Organism (CLO) Test Positive and Peptic Ulcer Disease (PUD) by Upper Endoscopy at Combined Endoscopy Unit, Hospital Tengku Ampuan Afzan, Kuantan, Malaysia

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SUMMARY

INTRODUCTION

Peptic ulcer disease (PUD) is a major risk factor for the development of gastric cancer and it is associated with *Helicobacter pylori* (*H. pylori*) infection. *H. pylori* infection can be detected by performing CLO test via upper endoscopy. Here, the association between PUD and CLO test positively was evaluated and analyzed.

MATERIALS AND METHODS

Retrospective data of 4302 patients between the ages of 15-88 were identified through upper endoscopy records from January 2005 to October 2007. Endoscopic findings and CLO tests performed on all patients were documented.

RESULTS

A total of 1815 patients had CLO test performed on them. One hundred and eighteen patients had positive results, 6.5% (n=118) and included in the analysis. Out of 118, thirty four had PUD of endoscopy, 28.8%. Ethnic group Chinese had the highest PUD rate, 55.8% (n=19/34), followed by Malays, 32.3% (n=11/34, Indians, 8.8% (n=3/34) and others 2.9% (n=1/34). Male had a higher PUD rate, 58.8% (n=20/34), compared to female, 41.2% (n=14/34). Older age group (>50) had a higher rate of PUD, 73.5% (n=25/34) compared to the younger age group (<50), 37.5% (n=9/24).

CONCLUSION

Ethnic group Chinese, male gender and older age group (>50) had a higher rate of PUD-associated *H. pylori* infection. Mass CLO test screening amongst non-PUD patients was not cost effective.

CA19-9 As a Non-Invasive Marker for Disease Activity in Hepatitis B Patients: Is There Any Role?

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SUMMARY

The combined elevation of tumor markers carbohydrate antigen 19-9 (CA 19-9) and carbohydrate antigen 125 (CA 125) has been shown to be associated with the severity of liver fibrosis in patients with liver disease. We assessed the association between CA 19-9 and viral hepatitis B activity which will allow us to know the usefulness of CA 19-9 as a surrogate marker for the disease activity in hepatitis B patients.

MATERIALS AND METHODS

A prospective study involving 60 patients with hepatitis B surface antigen positive carrier was performed. These patients were divided into two groups according to HBeAg positivity. Tumor marker CA 19-9 was determined using routine laboratory methods and correlated with the disease activity by measuring hepatitis B viral DNA (HBV DNA) and serum alanine transaminase (ALT) and aspartate transaminase (AST) levels.

RESULTS

Eleven (18%) were HBeAg positive and 49 (82%) were HBeAg negative. The mean (standard deviation) age in the former group was 40.7 (11.7) years and in the latter group was 40.8 (12.5) years ($p = 0.98$). There was no significance difference between the two groups with respect to the levels of serum ALT/AST, HBV DNA and CA 19-9. There was no significant correlation seen between CA 19-9 and serum ALT/AST. It was the same with the levels of HBV DNA.

DISCUSSION AND CONCLUSION

The use of CA 19-9 as a non-invasive marker for disease activity in patients with hepatitis B infection was not useful. There was no role of CA 19-9 in hepatitis B patients to assess the disease activity.

Carcinoma of Ampulla of Vater: Effect of Preoperative Biliary Drainage on Outcome of Surgery

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SUMMARY

BACKGROUND

Data for use of preoperative biliary drainage in patients with obstructive jaundice and ampullary cancer has revealed mixed results in terms of postoperative complications.

OBJECTIVE

To evaluate the influence of preoperative biliary drainage on morbidity and mortality after surgery for ampullary cancer.

MATERIALS AND METHODS

We analyzed records of patients (82) who underwent potentially curative surgery for ampullary carcinoma between September 1993 and July 2007 at the Singapore General Hospital, a tertiary referral hospital. Diagnosis for ampullary cancer was confirmed histologically (surgical specimen). Of 82 patients, 35 underwent preoperative biliary drainage (PBD group), and 47 were not drained (non PBD group). The mode of biliary drainage was ERCP (33) or percutaneous biliary drainage (2). Following parameters assessed postoperative morbidity till discharge: wound infection, intra-abdominal abscess, intra-abdominal or gastrointestinal bleed, septicemia, biliary/pancreatic leak, pancreatitis, gastroparesis, need for blood transfusion, and re-operation rate. Mortality was assessed at 30 days (early mortality) and also long term. The statistical endpoint was patient survival after surgery.

RESULTS

The groups were well matched for demographic criteria, clinical presentation and operative characteristics except for lower hemoglobin in non-PBD group (median Hb: 11.8 ± 1.6 , 10.9 ± 1.6 ; $p = 0.03$). Of the parameters assessing post-operative morbidity; incidence of wound infection was significantly less in the PBD group as compared to non - PBD group [1(2.9%) vs. 12(25.5%); $p = 0.04$], whereas rest of the parameters i.e. sepsis [10 (28.6%) vs. 14 (29.8%); $p = 0.50$], intra-abdominal bleed [1 (2.9%) vs. 5 (10.6%); $p = 0.18$], intra-abdominal abscess [1 (2.9%) vs. 8 (17%); $p = 0.07$], gastrointestinal bleed [3 (8.6%) vs. 5 (10.6%); $p = 0.50$], pancreatic leak [2 (5.7%) vs. 3 (6.4%); $p = 0.60$], biliary leak [2 (5.7%) vs. 3 (6.4%); $p = 0.60$], pancreatitis [2 (5.7%) vs. 2 (4.3%); $p = 0.70$], gastroparesis [6 (17.1%) vs. 10(21.3%); $p = 0.20$], need for blood transfusion [10 (28.6%) vs. 17 (36.2%); $p = 0.50$] and re-operation rate [1(2.9%) vs. 5(10.6%); $p = 0.62$] were not significantly different in both groups. None of the groups had early mortality. Median survival in the PBD group was 44 months (CI: 34.2 - 53.8) and in the non - PBD group was 41 months [CI: 27.7 - 54.3; $p = 0.86$].

CONCLUSION

Endoscopic biliary drainage before surgery for ampullary cancer significantly reduced postoperative wound infection. Overall mortality was not influenced by pre-operative drainage.

EUS for Choledocholithiasis: Accuracy and Cost Benefit Analysis

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SUMMARY

BACKGROUND

Diagnostic accuracy of EUS for choledocholithiasis compares favorably with that of ERCP. EUS is less invasive and expensive than ERCP. There is dearth of data from Asia in this regard.

AIM

To assess the incidence of choledocholithiasis in low to moderate risk patients by endoscopic ultrasound (EUS), and to ascertain clinical and economic benefits of EUS by avoidance of unnecessary endoscopic retrograde cholangiography (ERC) and sphincterotomy (EST).

MATERIALS AND METHODS

We analyzed a prospective series of 221 patients (88 men, 133 women; mean age 62 years, range 22-95 years) who underwent EUS for detecting choledocholithiasis from May 2005 till May 2007 at a tertiary referral center and a teaching hospital. Based on clinical, biochemical, and cross-sectional imaging data (US or CT) patients were stratified into low and moderate risk groups. Patients with normal sized CBD with or without biochemical derangement were included in the low risk group (128). Patients with dilated CBD (>7mm) were included in the moderate risk group (93). High risk patients were excluded. Positive EUS findings were confirmed by ERCP or by surgery; negative findings were confirmed by clinical follow-up. EUS result was considered a true negative

if the patient was confirmed symptom-free with normal tests on follow-up of six months. The costs of EUS (procedure, days of hospitalization, any morbidity) were compared with the estimated costs of the ERCP procedures avoided in patients with true-negative EUS findings.

RESULTS

EUS findings were verified in 221 patients: EUS was positive for choledocholithiasis in 65 patients (29.4%) and negative in 156 patients (70.6%). Choledocholithiasis was detected in 25 patients (19.5%) in the low risk group and 40 patients in the moderate risk group (43%). By ERCP (64 patients), surgical bile duct exploration (1), and follow-up (156), EUS diagnoses were confirmed as follows: true positive (65), true negative (152), false positive (0), and false negative (1); sensitivity (97.8%), specificity (99.7%), positive predictive value (99%), negative predictive value (99%). Three patients were lost to follow up. The mean stone size was 4.5mm (\pm 1.87). In 156 (70.6%) patients, more invasive investigations of the bile duct were avoided. The mean cost for patients managed by the EUS-based strategy was US\$ 795.2 (\pm 238). This was significantly less than the theoretical mean cost of US\$ 1630.5 ($p < 0.01$) for ERCP.

CONCLUSION

The results of this study confirm that EUS is highly reliable for the diagnosis of choledocholithiasis. Its use offers considerable clinical and economic advantages by preventing inappropriate ERCP.

Efficacy and Safety of Levofloxacin - Based *Helicobacter pylori* Eradication Regime Compared to Conventional 1st Line Therapy

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SUMMARY

The success rate of the conventional 1st line *Helicobacter pylori* eradication therapy is influenced by the antibiotic resistant strain of the *H. pylori* bacteria and patient's compliance. A Levofloxacin-based triple therapy may provide a superior alternative option in view of increasing clarithromycin resistance in the current treatment regime. The objective of this study was to determine the efficacy and safety of a levofloxacin-based regimen consisting of esomeprazole 20mg bd / levofloxacin 500mg od / amoxicillin 1000mg bd (ELA) compared to conventional 1st line eradication therapy with esomeprazole 20mg bd / clarithromycin 500mg bd/amoxicillin 1000mg bd (ECA). This was a two-arm prospective, open-labeled randomised controlled clinical trial. A total of 70 consecutive patients were recruited. *H. pylori* positive patients were given 7 days triple therapy of either ECA or ELA. At the end of the treatment, patient's compliance, side effects and tolerability of the eradication therapy was assessed. At six weeks, a 13C-urea breath test was done to evaluate *H. pylori*

eradication status. The intention-to-treat analysis reflected a statistically significant *H. pylori* eradication in the ELA group, 94.3% against 74.3% in the ECA group ($p = 0.022$). The per protocol analysis revealed an almost significant value as the ELA and ECA group attained 94.3% and 78.8% eradication rates respectively ($p = 0.059$). Two dropouts occurred in the ECA group but none was seen in the ELA group. Both treatment groups showed no significant differences in the overall incidence of side effects. The levofloxacin-based triple therapy had comparable adverse events to the conventional treatment arm (28.6% for ELA vs 34.3% for ECA). The predominant side effects were taste disturbances, diarrhea and abdominal pain. In conclusion, a 7-day course of esomeprazole / levofloxacin / amoxicillin is more efficacious than esomeprazole / clarithromycin / amoxicillin for *H. pylori* eradication and emerges as a new therapeutic option as first-line therapy. The tolerability of the levofloxacin-based regime is comparable to the conventional treatment.

Clinicoepidemiological Pattern of Esophageal Varices in Cirrhotic Patients in Hospital Raja Perempuan Zainab II (HRPZ II) Kota Bharu Kelantan

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SUMMARY

INTRODUCTION

Gastroesophageal variceal bleeding, a major complication of portal hypertension resulting from cirrhosis, accounts for 10–30% of all cases of upper gastrointestinal tract bleeding.

MATERIALS AND METHODS

Retrospective analysis of 60 patients who were diagnosed Liver Cirrhosis by ultrasound and were followed up in the Gastroenterology clinic of HRPZ II from January 2002 till December 2007. An oesophagealgastrroduodenoscopy (OGDS) was performed on these patients.

OBJECTIVE

To assess the outcome of liver cirrhosis with esophageal varices who underwent Endoscopic Variceal Ligation (EVL) from January 2002 till December 2007.

RESULTS

There were 43 males (72%) and 17 females (28%). The commonest cause of liver cirrhosis in this cohort was Hepatitis B (52%, 31 patients). The cause was undetermined in 12 patients (20%). Eight patients (13%) had hepatitis C. Four patients had associated hepatoma, hepatitis B and hepatitis C co-infection (three patients, 5%), alcohol and autoimmune hepatitis (one patient, 2%). Forty-three (72%) patients had esophageal varices while 17 (28%) did not have

visible esophageal varices on endoscopy. Twelve patients (27%) presented with acute variceal haemorrhage and all these patients had only one episode of variceal haemorrhage. There was no reported case of rebleeding. Thirty percent had large varices, 17% had moderately sized varices while 23% had small sized esophageal varices. For patients who presented with variceal haemorrhage 10 patients (83%) had large size varices, one patient (8%) had moderate and small size varices respectively. Twenty-three patients (38%) were Child's A liver cirrhosis, 15 patients (25%) Child's B, 7 patients (12%) were Child's C. Out of the 12 patients who presented with variceal haemorrhage six patients (56%), three patients (25%) and two patients (16%) were in Child's A, Child's B and Child's C respectively. Of the patients who had varices but did not bleed, eight patients (47%) had only one endoscopic variceal ligation (EVL) occasion, seven patients (41%) had 2 EVL occasions while one patient (6%) had 3 EVL occasions. Only three patients (6%) had successfully obliterated esophageal varices. Twenty-eight patients (65%) received beta blocker (propranolol) for primary prophylaxis for portal hypertension while nine patients (75%) received beta blocker (propranolol) for secondary prophylaxis. Twenty-two patients (37%) defaulted follow-up.

CONCLUSION

Commonest cause of liver cirrhosis in this study was chronic hepatitis B infection. Only a small proportion of patients (5%) had complete variceal eradication. Patients have poor compliance to beta blocker therapy.

Abdominal Tuberculosis: A Challenging Disease

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SUMMARY

INTRODUCTION

Abdominal tuberculosis accounts for 11%-16% of extra pulmonary tuberculosis cases^{3,4}. Abdominal tuberculosis may be, enteric (intestine involved itself), peritoneal, nodal (lymph nodes involvement) and solid visceral tuberculosis like liver, spleen, kidney and pancreas or in any combination of these four varieties. Diagnosis of abdominal tuberculosis is difficult due to its vague and non-specific clinical presentation. The low yield of mycobacterium culture or smear also does not help the matter. There are a wide range of investigations that may be done to aid diagnosis of abdominal tuberculosis. These include endoscopic procedures such as colonoscopy, radiological imaging-ultrasound, CT scan, and barium studies, and surgical procedures. We have reviewed all abdominal tuberculosis cases diagnosed in our population from March 2003 to Jan 2008.

MATERIALS AND METHODS

This is retrospective review of all cases of abdominal tuberculosis diagnosed in Hospital Raja (P) Zainab 2, Kota Bharu, Kelantan between March 2003 to December 2007. Demographic data, clinical presentation, laboratory investigations, radiological, endoscopic and surgical findings were recorded. Outcomes of these cases were also noted.

AIM

1. To investigate the clinical characteristics of patients with abdominal tuberculosis.
2. To study the clinical presentations of abdominal tuberculosis in these patients.
3. To look at the investigations needed to diagnose abdominal tuberculosis in these cases.
4. To look at the outcome of patients with abdominal tuberculosis.

RESULTS

A total of 22 patients, 14 male (63.6%) and 8 female (36.4%) were included. The mean age is 41 (range 18-82). 90% of patients were Malays and only 2 (10%) Siamese. The commonest clinical presentations were LOW/LOA (77.3%), fever (68.2%), abdominal pain (54.5%) and diarrhea (54.5%). However, there were wide range of symptoms at presentation which include abdominal mass, ascites, night sweats, intestinal obstruction, acute abdomen, constipation, malaena, vomiting and PR bleeding. Twelve (54.5%) patients had HIV, 9 (40.9%) patients had concurrent PTB, and 4 (18.2%) had past history of TB. Diagnosis of abdominal TB was made based on biopsies taken during colonoscopy in 9 (40.9%) patients, positive stool AFB in 3 (13.6%), biopsies taken during surgical procedures in 5 (22.7%), ascitic fluid positive for AFB in 3 (13.6%), abdominal ultrasound findings in two patients and one case based on clinical suspicion. ESR was raised, mean 87.4 (range 13-180 mm/hr). Outcome is poor with 50% (11 patients) mortality. Eight (36.3%) patients completed treatment and another three patients are still undergoing treatment.

CONCLUSION

Diagnosis of abdominal tuberculosis is difficult owing to its non-specific and wide range of possible symptoms. As a result, late detection and treatment may lead to poor prognosis. Abdominal TB has a high mortality rate (50%) in our population. Biopsies taken during colonoscopy and surgical procedure may be helpful in the diagnosis.

REFERENCES

1. Wang HS, Chen WS, Su WJ, Lin JK, Lin TC, Jiang JK. The changing pattern of intestinal tuberculosis: 30 years' experience. *Int J Tuberc Lung Dis* 1998; 2: 569-74.
2. Misra SP, Misra V, Dwivedi M, Gupta SC. Colonic tuberculosis: clinical features, endoscopic appearance and management. *J Gastroenterol Hepatol* 1999; 14: 723-29.
3. Aston NO. Abdominal tuberculosis. *World J Surg* 1997; 21: 492-99.
4. Singhal A, Gulati A, Frizell R, Manning AP. Abdominal tuberculosis in Bradford, UK: 1992-2002. *Eur J Gastroenterol Hepatol* 2005; 17: 967-71.
5. Horvath KD, Whelan RL. Intestinal tuberculosis: return of an old disease. *Am J Gastroenterol* 1998; 93: 692-96.

Levofloxacin Triple Therapy as 2nd Line Rescue Therapy for Refractory HP Infection

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SUMMARY

BACKGROUND

Helicobacter pylori treatment failures are increasing in prevalence and are usually difficult to treat. One of the new antibiotics which have been used as rescue therapy is levofloxacin which has shown to have one of the lowest minimum inhibitory concentration (MIC90) to *H.pylori*. The aim of the study is to look at the success rate of levofloxacin based triple therapy as second line rescue therapy for refractory *H.Pylori*.

MATERIALS AND METHODS

Patients who have failed a single course of one week PPI triple therapy were recruited. Presence of HP was confirmed on *urease biopsy test* and histology and/or *C13 urea breath test (UBT)*. Patients were treated with high dose dual therapy (RA)

(Pariet, Eisai HHC, Tokyo, Japan) 20mg tds and amoxicillin (Ospamox, Biochemie, Austria) 1g tds for two weeks; Subsequent failures received sequentially levofloxacin triple therapy (RAL); rabeprazole 20mg bd, amoxicillin 1g bd and levofloxacin (Dai-ichi, Tokyo, Japan) 500mg bd for two weeks. Treatment success was determined with the *C13 UBT* performed at least four weeks after completion of therapy.

RESULTS

Twenty one failed high dose dual therapy (RA). Of the 17 who had returned for assesment 16 were negative for *H.pylori* giving success rate of 94.1% (16/17, (95% C.I. 71.3-99.8).

CONCLUSION

Levofloxacin based triple therapy is highly successful as second line rescue therapy in resistant *helicobacter pylori*.

Rabeparazole - Amoxycillin High Dose Dual Therapy as 1st Line Rescue Therapy in *Helicobacter Pylori* Eradication Failures

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SUMMARY

BACKGROUND

Helicobacter pylori treatment failures are usually very difficult to treat and the difficulty of treatment success increases with each successive treatment failure. Treatment failure can be due to several reasons including poor compliance to medications and bacterial resistance to antibiotics. Amoxicillin remains as the preferred antibiotic as there is virtual absence of bacterial resistance. The aim of the study is to determine the success rate with a high dose dual therapy with amoxicillin and Proton Pump Inhibitor (PPI) for two weeks as first line rescue therapy.

MATERIALS AND METHODS

Patients who have failed a single course of one week PPI triple therapy were recruited. Presence of *H.pylori* was confirmed on *urease biopsy test* and histology and/or *C13 urea breath test (UBT)*. Patients were treated with rabepazole (Pariet, Eisai HHC, Tokyo, Japan) 20mgtds, amoxycillin (Ospamox, Biochemie, Austria) 1gmdts for two weeks. Treatment success was determined with the *C13UBT* performed at least four weeks after completion of therapy.

RESULTS

Eighty-five patients who failed 1 week PPI triple therapy were recruited for the study. Out of 85 patients who received treatment, 58 had successful eradication while 27 patients failed treatment. Three dropped out from the study. three others were noncompliant to medication.

The treatment regimen was highly tolerable.

Eradication success:

Per Protocol analysis was 73.4% (58/79)(95%CI:62.3-82.7%) and Intention-to-Treat analysis-68.2% (58/85)(95%CI:57.2-77.9%).

CONCLUSION

High dose PPI dual therapy is modestly successful as first line rescue therapy in *H.pylori* treatment failures. The drugs used in this rescue regimen are relatively inexpensive and they are widely available.

Diagnostic and Prognostic Significance of Hepatitis B Core Igm in Patients with Acute Hepatitis B and Chronic Hepatitis B Flare

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SUMMARY

BACKGROUND

AHB and CHBF can be difficult to be differentiated clinically at presentation as patients usually have similar clinical manifestations. HBc IgM can be positive among patients in both groups. However, limited data are available on the diagnostic accuracy of HBc IgM in differentiating AHB from CHBF and on its prognostic significance in these two disease entities.

OBJECTIVE

To determine the accuracy (sensitivity and specificity) of HBc IgM in diagnosing AHB and to determine the correlation between HBc IgM and liver inflammation (ALT), bilirubin and biosynthetic functions (albumin, PT).

MATERIALS AND METHODS

A retrospective cross-sectional study involving all patients with HBc IgM positivity between June 2006 and December 2007, satisfying the definition for AHB and CHBF, and fulfilling the exclusion criteria was performed. All HBc IgM test were done by using Microparticle Enzyme Immunoassay (MEIA) and the assay results were expressed as an Index value. HBc IgM positivity was defined as Index value of > 1.00.

RESULTS

A total of 74 patients were positive for HBc IgM, and 60 who fulfilled the criteria were recruited (33 AHB, 27 CHBF). HBc IgM was significantly higher among patients with AHB compared with CHBF (median 3.46 vs 1.70; $p < 0.0005$). The HBc IgM arbitrary Index value of 2.76 was highly sensitive (97%) and specific (85%) in diagnosing AHB with high accuracy (AUROC 0.964; 95% CI: 0.925-1.003; $p < 0.0005$). Among patients in both groups, there was a weak, but significant negative correlation between HBc IgM and PT above control ($r = -0.309$, $p = 0.016$). However, among patients with CHBF, the negative correlation between HBc IgM and PT above control was moderately strong ($r = -0.557$, $p = 0.003$). There was also a weak, but significant positive correlation between HBc IgM and albumin among patients with CHBF ($r = +0.434$, $p = 0.024$).

DISCUSSION / CONCLUSION

The HBc IgM index value is very useful in differentiating AHB from CHBF. The role of HBc IgM to prognosticate patients with AHB or CHBF needs further exploration.

ABBREVIATIONS

HBc IgM- hepatitis B core IgM antibody, AHB- acute hepatitis B, CHBF- chronic hepatitis B flare, ALT- alanine transaminase, PT- prothrombin time, AUROC- area under Receiver Operator Characteristic curve.

Helicobacter Pylori Resistance to Antibiotics in Malaysia

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SUMMARY

BACKGROUND

The use of multiple antibiotics in the treatment of *Helicobacter pylori* has given rise to concerns of emergence of resistance to antibiotics. We have tracked the prevalence of resistance to metronidazole and clarithromycin over the years¹⁻⁵ in our center. In the present study we analyzed the prevalence of resistance to six antibiotics: clarithromycin, amoxicillin, metronidazole, levofloxacin, rifampicin and nitrofurantoin which are used in the treatment of *H.pylori*.

MATERIALS AND METHODS

Consecutive cultures of *H.pylori* positive patients who were previously untreated were collected from June-September 2006 and tested with epsilometer (E-test) (AB Biodisk Solna, Sweden) test for bacterial resistance to antibiotics. Breakpoints for resistance were used according to CLSI/EUCAST guidelines- metronidazole $\geq 8.0\mu\text{g/ml}$, clarithromycin $\geq 1.0 \text{ ug/ml}$, amoxicillin $\geq 1.0\text{ug/ml}$, levofloxacin $\geq 1.0\text{ug/ml}$. Testing for rifampicin was used for rifabutin and nitrofurantoin for furazolidine and breakpoints were $\geq 16\text{ug/ml}$ and $\geq 4\text{ug/ml}$ respectively.

RESULTS

Ninety samples were tested. The prevalence of resistance were: clarithromycin and amoxicillin – 0% with MIC90 for all

strains of $\leq 0.016\text{ug/L}$; metronidazole- 65/90 (72.2%) (MIC90 range $\leq 0.016\text{ug/ml}$ - $<256\text{ug/ml}$. Resistance to levofloxacin, rifampicin and nitrofurantoin was also 0%- MIC90 range: $\leq \leq 0.002$ - 0.50 ug/ml , ≤ 0.016 - 4.0ug/ml , ≤ 0.032 - 0.50ug/ml respectively.

CONCLUSION

H.pylori strains were highly susceptible to clarithromycin, amoxicillin, levofloxacin, rifampicin, and nitrofurantoin. Resistance to clarithromycin has not been seen over a 10 year period. However there was a high rate of in vitro bacterial resistance to metronidazole which had been consistently noted previously.

REFERENCES

1. Parasakthi N, Goh KL. Metronidazole resistance among *Helicobacter pylori* strains in Malaysia. American Journal of Gastroenterology 1992; 87: 808.
2. N Parasakthi, Goh KL. Primary and acquired Clarithromycin resistance amongst *Helicobacter pylori* strains in Malaysia. American Journal of Gastroenterology 1995; 90: 519.
3. Goh KL, N Parasakthi, SY Chuah, M Toetsch. Combination amoxicillin and metronidazole with famotidine in the eradication of *Helicobacter pylori*-a randomised double blind comparison of a three times daily and twice daily regimen. Eur J Gastroenterol Hepatol 1997; 9: 1091-5.
4. Goh KL, N Parasakthi, Sy Chuah, Pl Cheah, Yl Lo, Sc Chin. One-week low dose triple therapy with proton-pump inhibitors- optimal therapy for *H.pylori* eradication? Alim Pharm Ther 1997; 11: 1115-8.
5. Goh KL, Parasakthi N, Cheah Pl, et al. The efficacy of a one week pantoprazole triple therapy in eradicating *Helicobacter pylori* in Malaysian patients. J Gastroenterol Hepatol 2000; 15: 910-4.

Pantoprazole / Amoxicillin / Clarithromycin as First-line *Helicobacter Pylori* Eradication Therapy: Is it still Effective 10 Years on? An In-Clinical Practice Study

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SUMMARY

BACKGROUND

The successful eradication of *Helicobacter Pylori* (HP) infection depends on patient compliance and susceptibility of HP to the chosen antibiotics. A previous study from this centre had demonstrated efficacy of a one-week pantoprazole therapy in HP eradication¹ and a PPI/clarithromycin/amoxicillin regimen has been recommended as the first line treatment in 1998². Rising antimicrobial resistance in certain areas has led to lower eradication rates using this regime as first-line therapy.

OBJECTIVE

To reexamine the efficacy and tolerability of pantoprazole/amoxicillin/clarithromycin regime as first-line eradication therapy for HP eradication.

MATERIALS AND METHODS

Consecutive subjects with positive rapid urease test (RUT) during outpatient upper endoscopy were included. All subjects were given pantoprazole 40mg bd, amoxicillin 1g bd and clarithromycin 500mg bd for one week. They were asked to return after one week to report any side effects related to medications and to check for compliance via inspection of empty medication envelopes. Successful eradication was defined by negative 13C-Urea Breath Test (UBT) at least four weeks after completion of eradication therapy.

RESULTS

One hundred and thirty patients were recruited, with a mean age of 57.14 (range 22-88 years). Seventeen patients defaulted follow up and one patient was not compliant (taking less than 85%) with medications. Per-protocol and intention-to-treat eradication rates were 82.5% (95% CI: 75.7–89.33%) and 72.3% (95% CI 65.6-80.4%) respectively. Overall, the eradication regime was well tolerated by study subjects: 70 (58.3%) reported no side effects, followed by 34 (28.3%) taste disturbances, 4 (3.3%) nausea or vomiting, 3 (2.5%) loss of appetite, 3 (2.5%) diarrhea, 2 (1.7%) dizziness, 2(1.7%) stomach pain and 2 (1.7%) allergic skin rash (1.7%), none of them were severe.

CONCLUSION

The current regime using a PPI, amoxicillin and clarithromycin is highly tolerable and effective in HP eradication in the local in clinical practice setting and should continue to be recommended as 1st line therapy for *H.pylori*.

REFERENCES

1. Goh KL, Parasakthi N, Cheah PL, *et al.* The efficacy of a one week pantoprazole triple therapy in eradicating *Helicobacter pylori* in Malaysian patients. *J Gastroenterol Hepatol* 2000; 15: 910-4.
2. Goh KL, Mahendraraj S, Parasakthi N, Kew ST, Kandasami P, Mazlam Z. Management of *Helicobacter pylori* infection: Working Party Report of the Malaysian Society of Gastroenterology and Hepatology. *Med J Malaysia* 1998; 53: 302-10.

Hepatitis C Treatment: The Hospital Ipoh Experience

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SUMMARY

BACKGROUND AND OBJECTIVE

Hepatitis C is one of the leading causes of chronic liver disease and an emerging health care problem in Malaysia. We are forming a registry to evaluate the characteristics of our local patients and their response to treatment.

MATERIALS AND METHODS

Outpatient clinical notes of patients attending gastroenterology clinic who were treated for Hepatitis C were analysed retrospectively. A self designed data form was used for the collection of data. Collection of data was done from January 2003 to June 2008.

RESULTS

A total of 50 patients were treated during this duration. Seventeen patients were excluded in view of insufficient data for analysis. Of these patients 66.7% were males and 33.3% females. Patients of Malay ethnic origin were of the majority (42.4%) followed by the Chinese (39.4%) and Indians (18.2%). The median age of this population was 45.5 years. The most common risk factor for acquiring Hepatitis C was blood transfusion (51.5%), followed by sexual promiscuity (15.2%) and intravenous drug abuse (9.1%). Data was not available on any risk factors for eight patients (24.2%). Out

of this population 30.3% were cirrhotic and 66.7% had chronic liver disease. 33.3% were of Genotype 1 while 66.7% were of genotype 3. The majority received a combination of pegylated interferon and ribavarin (69.7%), 18.2% received a combination of standard interferon and ribavarin and 12.1% received interferon/pegylated interferon monotherapy (end stage renal failure patients). Sustained virological response was achieved overall in 75.8%. Within genotype 3 SVR rate was 86.4% and 54.5% in genotype 1. For Genotype 1, the relapse rate was higher in the high viral load population (HCV PCR>600,000 IU/ml). The baseline ALT levels did not make a difference on whether SVR was achieved or not. Of the patients who had standard /pegylated interferon monotherapy 50% achieved SVR. Treatment was discontinued in three patients (9%) of which one patient decompensated and two patients did not achieve EVR. The most common side effects from treatment include myalgia, cough, anorexia, fever and a drop in haemoglobin. There was a dose reduction in 10 patients (3%) which were mainly due to abnormalities in haematological parameters.

CONCLUSION

Hepatitis C patients seen at our hospital present at a later age with most of them seen at early stages of their liver disease. A large number of our patients are of Genotype 3 and favor a good response to treatment. Our SVR rates are in keeping with most published data.

An Audit of Chronic Hepatitis B Infection Care in the Gastroenterology Clinic, Sarawak General Hospital

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SUMMARY

INTRODUCTION

Hepatitis B infection is common in Asia and carries a significant burden of morbidity and mortality, because of complications such as liver cirrhosis and hepatocellular carcinoma. It is imperative to understand the characteristics and demographics of our local population to improve health care and reduce complications.

MATERIALS AND METHODS

We reviewed data from all the available medical records of patients with Hepatitis B infection that were seen in the Gastroenterology Clinic, Sarawak General Hospital, from 1st October 2007 until 31st March 2008. Patient characteristics and basic investigations were recorded and analysed. The parameters that were investigated were the age at first presentation in clinic, ethnic group, source of referral, concomitant Hepatitis C infection, ultrasonographic findings of liver cirrhosis, Hepatitis B e Antigen and Hepatitis B e Antibody positivity, antiviral treatment and oesophagogastrroduodenoscopy (OGDS) findings, if available.

RESULTS

A total of 154 medical records were available for analysis. The average age on first presentation was 45 years old, with the youngest patient being 14 years old and the oldest, 77 years old. The most common age at presentation was 54. The patients under our care were Chinese (53.9%), Malays (18.2%), Bidayus (16.9%), Ibans (10.4%) and Orang Ulu (0.6%). Only one third of the patients were female. 55.8% of the referrals to our clinic were from within the hospital itself, with a further 33.1% of the referrals coming from local government polyclinics or district hospitals. Only 11.1% of the referrals were from private institutions.

We could identify risk factors for acquired infection in only 14.3% of our patients: previous blood transfusions, tattoos, intravenous drug use, high risk occupations and End Stage Renal Disease on haemodialysis. 13.6% had a strong family history of Hepatitis B and were presumed to have had vertical transmission. The remaining 72.1% had no identifiable risk factors.

Two of the patients (1.3%) had concomitant Hepatitis C infection. However, 67.5% did not have their Hepatitis C serology tested. Most of our patients (92.6%) had liver

ultrasonography requested. Of the patients who had their ultrasonography done, 30.5% had evidence of liver cirrhosis.

A majority (61.0%) of the patients were Hepatitis B e Antigen negative, 35.7% were Hepatitis B e antigen positive, while 3.3% did not have their Hepatitis B e Antigen done. 50.6% had positive Hepatitis B e Antibody, 36.4% negative, while the antibody was not tested in 13.0%. HBV DNA polymerase chain reaction (PCR) was done in the majority (64.3%) of our patients: 6.5% $<10^3$ copies/ml, 3.3% $<10^4$ copies/ml, 16.2% $<10^5$ copies/ml, and 38.3% $>10^5$ copies/ml.

A large proportion (60.4%) of our patients were on treatment for Hepatitis B during the study period. Drugs used included lamivudine (82% of treated patients), subcutaneous interferon alpha (2%), adefovir (13%), a combination of lamivudine and adefovir (2%), and entacavir (1%). 83.2% of our patients did not have an OGDS performed. Of those who had an OGDS done, 11.0% were found to have oesophageal or fundal varices.

DISCUSSION

From our local data, we observed that the majority of our patients presented in middle age. Most had Hepatitis B e Antigen Negative Chronic Active Hepatitis with high viral load ($>10^5$ copies/ml). These patients may require long-term antiviral treatment. Lamivudine was the main form of treatment used, with adefovir as the most common rescue treatment. Only one patient was on entacavir, purchased by the patient himself. Lamivudine was the preferred choice in our practice, because of limited drug budget resources. In patients who developed resistance to lamivudine, only selected patients received adefovir (depending on the patients' age, co-morbidities and disease severity) because of drug rationing. We know that resistance to lamivudine develops at a rate of 15 to 25 percent of patients a year, reaching 70 to 80 percent after four years¹. We predict that we shall look after increasing numbers of patients with lamivudine resistance in the next few years, posing a grave challenge to our ability to provide the best standard of care to our patients.

A substantial proportion of patients under our care, who had ultrasonography performed (30.5%) had liver cirrhosis documented. This suggests that patients are presenting late to our Gastroenterology Clinic, and we should aim to reduce the rates of this complication by earlier diagnosis and treatment where appropriate.

Another interesting finding was that the ethnic group of our patients was (in descending order) Chinese (53.9%), followed by Malay (18.2%), Bidayuh (16.9%) and Iban (10.4%). Sarawak has a population of 2.31 million, with 590,900 in Kuching City. The ethnic group distribution around Kuching is mixed: Chinese (38.0%), Malays (35.7%), Iban (10.0%) and others including Bidayuh, and Orang Ulu². It is interesting to note that Chinese and Bidayuh patients were over-represented, compared to the rest of the ethnic groups in Sarawak. However, bias may be present because most Chinese and Bidayuh people live in and around urban areas, and therefore have better access to healthcare than Iban and other Dayak groups. It is unclear why Malays are under-represented; this deserves further investigation.

A large number of patients (67.5%) did not have their Hepatitis C status examined. Hepatitis C status would be helpful in clinical practice, as co-infection would certainly affect our management. The presence of liver cirrhosis in our setting is mainly confirmed by ultrasonography; very few patients agree for liver biopsy.

CONCLUSION

The majority of our patients had Hepatitis B e Antigen Negative Chronic Active Hepatitis: this is difficult to treat and presents an enormous burden in terms of morbidity, mortality and health economics. Standard local guidelines should be made available for polyclinics and district hospitals to assist in appropriate referrals to tertiary centres, because Sarawak has a vast land area. Otherwise, it is likely that many patients with Hepatitis B infection will remain undetected or untreated, and will suffer potentially preventable complications. Choices of treatment for Hepatitis B are limited in our local setting; therefore, ideally, all patients should be seen by a Gastroenterologist before initiation of treatment, because lamivudine has high resistance rates, while other antivirals are beyond the reach of most patients. The Gastroenterology Clinic at Sarawak General Hospital is mainly run by General Physicians, and this audit should be beneficial in improving our care.

REFERENCES

1. Lok AS, Heathcote EJ, Hoofnagle JH. Management of hepatitis B: 2000 - summary of a workshop. *Gastroenterology* 2001; 120: 1828-53.
2. <http://www.sarawak.gov.my/content/view/12/20/> (accessed on 28th June 2008).

Does the Clinical Rockall Score Predict Upper Gastrointestinal Rebleed During Hospitalization in the Malaysian Population of Sabah?

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SUMMARY

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 complete Rockall score uses clinical criteria and endoscopy to identify patients at risk of adverse outcomes. The clinical Rockall score using only the clinical criteria may be able to predict outcome without endoscopy in most district hospitals which do not have endoscopy facilities.

OBJECTIVE

To assess the applicability of the clinical 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 484 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 clinical Rockall scores are categorized into low (0-1), intermediate (2-3) and high (4-7) risk groups.

RESULTS

There were 391(80.8%) males and 93(19.2%) females in this study. The population mean age was 55.56 years [median: 57 years, mode: 72 years, Standard Deviation: 16.51 years].

During hospitalization, 38(7.85%) patients had rebleed and 446 patients had no rebleed. 12(4.08%) out of 294 patients with low clinical Rockall score (0-1) had rebleed. Out of 140 patients with intermediate clinical Rockall score (2-3), 17(12.14%) had rebleed. 9(18%) in 50 patients with high clinical Rockall score (4-7) rebled. There was significantly lower rebleeding rate during hospitalization among patients with lower clinical Rockall score, $p < 0.05$ ($p = 0.00027$).

CONCLUSION

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

Does the Clinical Rockall Score Predict Mortality During Hospitalization in Upper Gastrointestinal Bleed in the Malaysian Population of Sabah?

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SUMMARY

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 complete Rockall score uses clinical criteria and endoscopy to identify patients at risk of adverse outcomes. The clinical Rockall score using only the clinical criteria may be able to predict outcome without endoscopy in most district hospitals which do not have endoscopy facilities.

OBJECTIVE

To assess the applicability of the clinical 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 484 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 clinical Rockall scores are categorized into low (0-1), intermediate (2-3) and high (4-7) risk groups.

RESULTS

There were 391(80.8%) males and 93(19.2%) females in this study. The population mean age was 55.56 years [median: 57 years, mode: 72 years, Standard Deviation: 16.51 years].

During hospitalization, 12(2.48%) died and 472 patients survived. All the 294 patients with low clinical Rockall score (0-1) survived. Out of 140 patients with intermediate clinical Rockall score (2-3), 7(5%) died. 5(10%) of 50 patients with high clinical Rockall score (4-7) died. There was significantly higher survival rate during hospitalization the lower the clinical Rockall score, $p < 0.05$ ($p = 0.000012$).

CONCLUSION

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

Tripling Erythropoietin Requirements Significantly Reduces Packed Red Cell Transfusion Requirement During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients

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SUMMARY

BACKGROUND

Chronic Hepatitis C is a prevalent condition among patients receiving hemodialysis and those who are post renal transplant. We know that chronic hepatitis c patients in these subgroup have poorer treatment related outcomes with greater adverse events from the treatment itself. Additionally, treatment with interferon and pegylated interferon treatment has been associated with significant anaemia needing multiple packed cell transfusion support. Since transfusion of blood products carries with it inherent risks most notably risk of incompatibility as well as infection transmission, any treatment that can reduce the dependence of packed cell transfusion will be beneficial to the patient both in the short term as well as in the long term. In analysis, we evaluated the amount of dose increase of erythropoietin that is needed to reduce packed cell requirement among patients receiving hemodialysis in Hospital Sultanah Bahiyah who had chronic hepatitis C in whom we treated with interferon alpha 2b.

MATERIALS AND METHODS

We included treatment naïve chronic hepatitis C patients aged 18-70 years old with compensated liver disease with an adequate hematologic parameters. Patients with co infections, significant cardiovascular dysfunction, uncontrolled diabetes and any contraindications to pegylated interferon alpha 2b treatment were excluded. Of the 24 chronic hepatitis C patients undergoing hemodialysis who were screened, 20 were enrolled in the study. All patients received monotherapy with pegylated interferon alpha 2b for 48 weeks in patients with genotype 1 and 24 weeks in genotype 3. We were unable to increase the erythropoietin needs of the patients during the first months of treatment due to stock and budgetary constraints so therefore the presence of anaemia were treated with pack cell transfusions as well as pegylated interferon dose reductions. However, when erythropoietin was available during the later part of the treatment, its dose was titrated according to the patient's hemoglobin levels.

RESULTS

Cumulative total number of weeks where the patients underwent pegylated interferon treatment were 765 weeks while a total of 81 packed cell transfusions were given. Out of 765 weeks, a total of 578 weeks of treatment, the patient's baseline amount of erythropoietin were continued and not escalated. This resulted in a need of using 73 packed cell transfusions. However, during the remaining 181 weeks of treatment, the patients' erythropoietin use were escalated and only eight packed cell transfusion were needed. During the baseline erythropoietin period, 1,202,000 units of erythropoietin were used in 578 weeks while 1,264,000 units were used in 181 weeks during the increased dose of erythropoietin. This translates to 2,080 units of erythropoietin per week during baseline versus 6,980 units per week during the optimized period.

CONCLUSION

We know that interferon can cause anaemia and that the anaemia will be more severe in the subgroup of patients with end stage renal disease undergoing hemodialysis. As you can see from our analysis, we were able to significantly reduce the need of packed cell transfusions (from 1 packed cell every 7.9 weeks to only needing 1 packed cell every 22.6 weeks) by increasing the dose of erythropoietin to triple the baseline requirement (from 2,080 units of erythropoietin per week during baseline versus 6,980 units per week). This shows that erythropoietin is an effective treatment to stabilise anaemia as well as well reduce packed cell transfusion requirement during treatment of hemodialysis patients with interferon and the estimated need dosage used is about 6,980 units per week or triple the baseline requirement. We realize that the number of patients we have are too small to power the analysis of this data but the trend is encouraging enough for us to recommend increased dose of erythropoietin use among hemodialysis patients receiving interferon for chronic hepatitis C.

Optimizing and Increasing Erythropoietin Dose Significantly Reduces Pack Cell Transfusion Requirement During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients

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SUMMARY

BACKGROUND

Chronic hepatitis C is a prevalent condition among patients receiving hemodialysis and those who are post renal transplant. We know that chronic hepatitis c patients in these subgroup have poorer treatment related outcomes with greater adverse events from the treatment itself. Additionally, treatment with interferon and pegylated interferon treatment has been associated with significant anaemia needing multiple packed cell transfusion support. Since transfusion of blood products carries with it inherent risks most notably risk of incompatibility as well as infection transmission, any treatment that can reduce the dependence of packed cell transfusion will be beneficial to the patient both in the short term as well as in the long term. In analysis, we evaluated the efficacy of erythropoietin in reducing packed cell requirement among patients receiving hemodialysis in Hospital Sultanah Bahiyah who had Chronic Hepatitis C in whom we treated with interferon alpha 2b.

MATERIALS AND METHODS

We included treatment naïve chronic hepatitis C patients aged 18-70 years old with compensated liver disease with an adequate hematologic parameters. Patients with co infections, significant cardiovascular dysfunction, uncontrolled diabetes and any contraindications to pegylated interferon alpha 2b treatment were excluded. Of the 24 chronic hepatitis C patients undergoing hemodialysis who were screened, 20 were enrolled in the study. All patients received monotherapy with pegylated interferon alpha 2b for 48 weeks in patients with genotype 1 and 24 weeks in genotype 3. We were unable to increase the erythropoietin needs of the patients during the first months of treatment due to stock and budgetary constraints so therefore the presence of anaemia were treated with pack cell transfusions as well as pegylated interferon dose reductions. However, when erythropoietin was available during the later part of the treatment, its dose was titrated according to the patient's hemoglobin levels. Patients who were unable to tolerate the study medication were discontinued from the trial.

RESULTS

Baseline patient characteristic includes the mean age of 41 years old, while males make up 44% of the patients. Genotype 1 constitute 80% while genotype 3 made up the remaining 20%. Cumulative total number of weeks where the patients underwent pegylated interferon treatment were 765 weeks while a total of 81 packed cell transfusions were given. Out of which 578 weeks of treatment, the patient's baseline amount of erythropoietin were continued and not escalated. This resulted in a need of using 73 packed cell transfusions. However, the remaining 181 weeks of treatment, the patients' erythropoietin use were escalated and this resulted in a significant drop of packed cell transfusion to only 8 during that time. At an average, if the patients' erythropoietin were not increased, he / she would've needed 0.12 packed cell per week or 1 packed cell every 7.9 weeks while if their erythropoietin were optimized and escalated, then their need will significantly reduce to 0.04 packed cell per week or only needing 1 packed cell every 22.6 weeks.

CONCLUSION

Even we know for a fact that interferon can cause anaemia and that the anaemia will be more severe in the subgroup of patients with end stage renal disease undergoing hemodialysis, we were still surprised at the large number of packed cell requirement needed by our patients even though they were only on monotherapy. We were therefore very encouraged by the fact that with optimization of their erythropoietin dosages, we were able to significantly reduce their erythropoietin use and nearly triple the length of time that they were able to be transfusion-free. Their blood pressure were stable during that time and their erythropoietin dosages were able to be tailed to pretreatment levels after they completed their interferon treatment. This shows that erythropoietin is a safe as well as effective treatment to stabilise anaemia as well as well reduce packed cell transfusion requirement during treatment of hemodialysis patients with interferon.

Effect of Increasing Erythropoietin Doses on Hemoglobin Levels During Treatment of Chronic Hepatitis C with Pegylated Interferon Among Hemodialysis Patients

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SUMMARY

BACKGROUND

Chronic hepatitis C is a prevalent condition among patients receiving hemodialysis and those who are post renal transplant. We know that chronic hepatitis c patients in these subgroup have poorer treatment related outcomes with greater adverse events from the treatment itself. Additionally, treatment with interferon and pegylated interferon treatment has been associated with significant anaemia needing multiple packed cell transfusion support. Since the level hemoglobin is used as a cutoff point to make clinical decision especially with relation to packed cell transfusion requirement as well as interferon dosage and its adjustment, the trend of hemoglobin among hemodialysis patients receiving pegylated interferon for chronic hepatitis c was a matter of great interest. In this analysis, we evaluated the hemoglobin trends among patients receiving hemodialysis in Hospital Sultanah Bahiyah who had Chronic Hepatitis C in whom we treated with interferon alpha 2b.

MATERIALS AND METHODS

We included treatment naïve chronic hepatitis C patients aged 18-70 years old with compensated liver disease with an adequate hematologic parameters. Patients with co infections, significant cardiovascular dysfunction, uncontrolled diabetes and any contraindications to pegylated interferon alpha 2b treatment were excluded. Of the 24 chronic hepatitis C patients undergoing hemodialysis who were screened, 20 were enrolled in the study. All patients received monotherapy with pegylated interferon alpha 2b for 48 weeks in patients with genotype 1 and 24 weeks in genotype 3. Regular full blood count and hemoglobin were recorded at defined intervals. In the first two months of treatment, bloods were taken two weekly and subsequently at monthly interval. We were unable to increase the erythropoietin needs of the patients during the first months of treatment due to stock and budgetary constraints so therefore anaemia were treated with pack cell transfusions and also pegylated interferon dose reductions. However, when erythropoietin was available during the later part of the treatment, its dose was titrated according to the patient's hemoglobin levels.

RESULTS

Cumulative total number of weeks where the patients underwent pegylated interferon treatment were 765 weeks,

out of which in 578 weeks of treatment, the patient's baseline amount of erythropoietin were continued and not escalated while in the remaining 181 weeks of treatment, the patients' erythropoietin use were escalated and optimized based on their prevailing hemoglobin trend and need of packed cell transfusions. When the hemoglobin trend was analyzed and compared between the two subsets, we found that during the time where baseline erythropoietin were used, the patients' mean hemoglobin was 107.003 g/dL (SE 2.736, SD 12.237 with a 95% confidence interval mean of 101.276-112.730) while the mean hemoglobin during the time of increased erythropoietin use was 111.532 g/dL (SE 3.37, SD 12.15 with a 95% confidence interval mean of 104.190-118.874). Using the t-test to compare the two distribution, we calculated the p value to be $p = 0.31$. Hence, even though we can see that the trend showed an improvement, it was not significant.

CONCLUSION

We know for a fact that interferon can cause anaemia and that the anaemia will be more severe in the subgroup of patients with end stage renal disease undergoing hemodialysis. We attempted to calculate the trend of hemoglobin during the entire treatment duration with pegylated interferon among hemodialysis patients with chronic hepatitis C. Even though we were expecting the trend to be worse during the period where the patient were receiving baseline doses of erythropoietin compared to optimized increased doses of erythropoietin, the analysis of data showed that even though it was true to an extent, it did not reach significance. There are three major reasons for not reaching significance, the first being that the total number of weeks compared (578 weeks vs 181 weeks) between the two groups were not matched with a more than 3:1 ratio. The second reason is that the number of patients that we have were too small to power this particular analysis and the trend of hemoglobin was not the primary objective of this study. The most important reason of course is that the trend was severely affected by the packed cell blood transfusions that were given during the length of the study and the improvement of hemoglobin after the blood transfusion severely skewed the trends and the averages of the hemoglobin values. However, even with all the transfusions, we still managed to show a trend for improvement and we feel that this is encouraging to show that erythropoietin is indeed useful to improve the hemoglobin trend among hemodialysis patients with chronic hepatitis C receiving pegylated interferon as treatment.

Acid Perfusion (Bernstein) Test Positivity: Comparison Between Patients with Reflux Esophagitis, Non-Erosive Reflux Disease and Healthy Controls

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SUMMARY

BACKGROUND

Gastroesophageal reflux disease (GERD) can be divided into two broad categories following upper endoscopy: Erosive GERD (eGERD) and Non-erosive reflux disease (NERD). It is an exquisitely acid sensitive disease. The Acid Perfusion (Bernstein) Test (APT) was devised to test the sensitivity of the lower esophagus to acid exposure.

OBJECTIVE

To compare the prevalence of APT positivity in patients with eGERD, NERD and healthy controls.

MATERIALS AND METHODS

Consecutive eGERD and NERD patients, following outpatient endoscopy as well as a similar number of healthy control subjects were recruited from 15th July 2007 to 1st March 2008. All subjects underwent APT as described by Bernstein on the same day following upper endoscopy.

RESULTS

One hundred and five subjects were recruited into this study and divided into three groups which are age and sex matched: 37 eGERD patients, 34 NERD patients, and 34 controls. The prevalence of APT positivity was 22/37 (59.46%) in eGERD patients and 24/34 (70.59%) in NERD patients, both of which were significantly higher than control group (1/34 or 2.94%, $p < 0.001$). However, there was no significant difference between NERD and eGERD patients ($p = 0.456$).

CONCLUSION

Both eGERD and NERD patients have increased prevalence of esophageal mucosal acid sensitivity compared to control subjects. However, no difference between eGERD and NERD patients was observed.

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Study of the Prevalence of Irritable Bowel Syndrome in a Private Medical University

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SUMMARY

INTRODUCTION

Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal disorder, consisting of variable combination of chronic or recurring gastrointestinal symptoms not explained by structural or biochemical abnormalities. It is characterized by unexplained recurrent abdominal discomfort or pain associated with altered bowel habits. A number of mechanisms have been suggested in the pathogenesis of IBS, but the underlying causes of IBS are still uncertain.

OBJECTIVE

The objective of this study was to determine the prevalence of irritable bowel syndrome based on the Rome III criteria in apparently healthy young Malaysians in the International Medical University, a private university in Malaysia; and to assess the prevalence of symptom-subgroups based on the predominant bowel habit.

MATERIALS AND METHODS

A standardized questionnaire was administered to the whole population of students in the International Medical University. The population included pre-clinical and clinical

phase medical students, pharmacy students, nursing students and research students. Diagnosis of IBS and the division into subgroups was based on the Rome III criteria.

RESULTS

A response of 1,411 was received and a total of 114 (8.08%) persons were detected to have IBS. The prevalence of IBS in the subgroups were 58%, 24%, 11%, 7%; in the mixed, diarrhoea predominant, constipation predominant and unspecified subgroup, respectively. There was a significant association between IBS with medical students (9.60%), in comparison with the other groups of students. In addition, there is a significant association between IBS in medical students in the clinical phase (15.46%) compare with medical students in the pre-clinical phase (8.01%).

CONCLUSION

In this study, the relatively high prevalence of IBS among medical students, especially clinical students, may be related to the high stress level faced by these students. The differences in the number of the different student population i.e. medical vs pharmacy vs nursing, limit the ability to conclude any significant association in specific student groups. Close to three quarters of the identified subjects had mixed and diarrhoea predominant IBS.

A Review of Gastrointestinal Stromal Tumour in Hospital Teluk Intan

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SUMMARY

There were a total of 104 patients with gastrointestinal tract tumour in Hospital Teluk Intan, a small district hospital, from year 2005 to June 2008. Only four patients were diagnosed with gastrointestinal stromal tumour (GIST), which is 0.4% of all gastrointestinal tumour. This incidence is comparable to

incidence elsewhere as reported in literature. This is a review of all four cases presented to us in this hospital from year 2005 to 2008, including a rare case of rectal gastrointestinal stromal tumour. There is review on latest updates and literature on GIST.

Symptomatic Outcome Following Laparoscopic Anterior 180° Fundoplication: Our Initial Experience

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SUMMARY

INTRODUCTION

Laparoscopic Nissen fundoplication has a well established role and achieves a good long term outcome for most patients undergoing surgery for gastroesophageal reflux disease (GERD). There are also other techniques currently practiced worldwide mainly Anterior and Posterior partial fundoplication. In our center, we perform laparoscopic anterior 180° fundoplication for treatment of GERD. Our aim is evaluate surgical outcome and symptom relief following laparoscopic anterior 180° fundoplication.

AIM

To evaluate surgical outcome, symptom relief and quality of life (QOL) following laparoscopic partial fundoplication in patients with gastro-oesophageal reflux disease.

MATERIALS AND METHODS

This is a prospectively evaluated case series. All ten patients who had undergone a laparoscopic anterior 180° fundoplication in our center between April 1, 2007 and March 30, 2008 were included in this study. Clinical outcomes were assessed by DeMeester-Johnson Reflux score, Visick grading system, Visual analogue score (VAS) to assess

severity of dysphagia, heartburn, bloating, flatus and to assess overall satisfaction with operative outcome.

RESULTS

Overall satisfaction of patient following surgery was encouraging with mean score of 7.2. The De Meester symptom score indicated that 60% of the patients were asymptomatic or with minimal GERD post operatively. This showed a significant improvement compared to pre-operative scoring where 80% of the patients had moderate to severe GERD.

Analysis of Modified Visick Grading system showed 90% of the patients were asymptomatic or with minimal symptoms easily controlled by simple measures after undergoing surgery. Compared to the pre-operative scoring where 90% had moderate symptoms affecting their daily living, this shows a significant improvement after surgery.

DISCUSSION

Overall, it is reasonable to conclude that the anterior 180° fundoplication achieved a satisfactory outcome in our center. However, these are only the initial outcomes which need a longer follow-up and larger sample for further assessment.

Gallbladder Empyema: Five Years Experience in Tuanku Ja'afar Hospital

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SUMMARY

BACKGROUND

Empyema of Gallbladder is one of the most feared complications of acute cholecystitis. Female gender, older age, leucocytosis, cardio-vascular diseases and diabetes were reported as factors that increase the risk of developing gall bladder empyema. The identification of factors associated with development of this complication in patient with acute cholecystitis is desirable because it could lead to early intervention and improve outcome.

AIM

To access the risk factors of patients who had empyema of gallbladder.

MATERIALS AND METHODS

Retrospective descriptive study looking into the surgical and admission data of patients diagnosed with empyema from July 2004- May 2008 in Hospital Tuanku Ja'afar. Gall bladder empyema was defined as an inflamed gall bladder which contained pus. The presence of inflammation and pus were established from the operation record and the histology report on the resected gall bladder.

RESULTS

Two hundred thirty-eight patients underwent cholecystectomy during this period. This includes 32 open cholecystectomy and 206 laparoscopic cholecystectomy. Total of 28 patients were diagnosed with Gall bladder empyema. Mean age of patients in this group was 56 years

old [range, 35-78 years]. There were 16 women and 12 men, giving a female:male ratio of 1.5:1. 72% of these patients were Malay with Chinese (9%) and Indian (9%) respectively.

Most common complaints of these patients were acute right hypochondrium pain, 22 [78%]. Mean duration of symptoms were three days. Palpable mass was present in only 11 patients (40%). Seventeen patients (60%) had underlying diabetes mellitus. Twenty-four patients (85%) had pyrexia of more than 37.5°C at any time preoperatively. There was clinically recognizable jaundice in four patients (14%). A white cell count of more than $11 \times 10^9 / l$ was found in 22 patients [78%], with a mean of 38.8°C. Intra-operative findings revealed all the patients had a gall bladder obstructed by stones. Only one case of mortality reported with septicaemia and multiorgan dysfunction as cause of death. Morbidity (32%) includes wound breakdown (14%), intra-abdominal abscess (7%), septicaemia (7%) and one case of biliary fistula.

DISCUSSION

Gall bladder empyema is a severe complication of acute cholecystitis with reported mortality up to 25%. An urgent cholecystectomy (either open or laparoscopic) is the treatment of choice. However, surgical intervention may often be delayed because of the difficulty of making the diagnosis. Our study determined that advanced age, female gender, diabetes mellitus, leucocytosis were strongly associated with increased risk of developing gall bladder empyema in patients presenting with right hypochondria pain.

Risk Factors for Erosive Oesophagitis and Non-Erosive Reflux Disease in Patients with Hiatus Hernia

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SUMMARY

BACKGROUND

Hiatus hernia seems to be a common diagnosis during endoscope procedure recently. This may be due to the greater awareness and better understanding of GERD. More patients are presenting with GERD symptoms to the clinic. The criteria of its diagnosis, occurrence and possible influence on esophageal reflux disease are still controversial.

AIM

To compare patient characteristics for erosive oesophagitis and non-erosive reflux disease (NERD) in patients with hiatus hernia in our local population.

MATERIALS AND METHODS

Retrospective data analysis of all patients who had symptoms of GERD and underwent an upper endoscope examination from Jan 2004 - May 2008. Hiatus hernia diagnose endoscopically. Esophagitis graded using Los Angeles Classification.

RESULTS

Total of 2721 patients had upper endoscope during this period. 936 [34.3%] of this patients had hiatus hernia with or without GERD symptoms. Male to Female ratio of hiatus hernia was 1.23: 1. Hiatus hernia positively correlates to GERD symptoms. Incidence of hiatus hernia was found to be lowest in Indian females. Majority of patients with hiatus hernia has no esophagitis [70.2%]. Hiatus hernia more than 2cm in length has significant risk of developing erosive esophagitis. Male has a higher risk of having erosive esophagitis compared to female.

CONCLUSION

Hiatus hernia is a common condition in our population. Treating asymptomatic patients is not cost effective. This study found that in our population male, advanced age and length of the hiatus hernia are among risk factor of developing erosive esophagitis. There is a need for a more objective method of assessing hiatus hernia during an endoscope procedure.

Barrett's Esophagus: A Comparison Between Endoscopy and Histological Diagnosis

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SUMMARY

INTRODUCTION

Barrett's esophagus is an acquired condition resulting from chronic gastroesophageal reflux disease (GERD) and characterised by the displacement of squamocolumnar junction proximal to gastroesophageal junction with the presence of intestinal metaplasia. It is a risk factor in developing distal oesophageal adenocarcinoma. Therefore it is important in making a reliable diagnosis of barrett's oesophagus.

OBJECTIVE

To compare the discrepancy of OGDS findings with the histological findings of barrett's esophagus in Tuanku Ja'afar Hospital, Negeri Sembilan.

MATERIALS AND METHODS

A retrospective study of patients underwent Oesophagogastroduodenoscopy (OGDS) from June 2006 till May 2008. Patients with positive OGDS findings of Barrett's esophagus were compared with their histological findings.

RESULTS

During the study period, a total of 91 patients with diagnosed as Barrett's esophagus via OGDS findings from June 2006 till May 2008 was compared with their respective histological findings. In 2006, there were 30 patients, 22 normal histological findings and 8 patients (26%) with positive histological findings. In 2007, 45 out of 49 patients were normal. Only four patients (8%) were with positive histological findings of Barrett's esophagus. Till May 2008, there were 12 patients with positive OGDS findings for Barrett's esophagus but none were diagnosed histologically.

CONCLUSION

False positive for Barrett's esophagus diagnosed by OGDS findings are extremely high. Therefore, Barrett's esophagus is ideally diagnosed histologically rather than OGDS findings alone. Endlicher E *et al* also showed similar results, only about 40% of 109 patients endoscopically suspected barrett's esophagus were confirmed histologically. Study by Wang A *et al* also concluded that endoscopic evaluation has limitations for the diagnosis of barrett's esophagus. Biopsies during endoscopy should not only be restricted for patients with positive OGDS findings but also for clinically gastroesophageal reflux symptoms.

Efficacy and Safety of Histoacryl Injection in the Treatment of Bleeding Post-Banding Ulcers

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SUMMARY

INTRODUCTION

To date, no trials or guidelines have addressed the treatment of post-banding ulcer bleed. In our hospital, we routinely treat these ulcers with histoacryl injections.

OBJECTIVE

To demonstrate the efficacy and safety of histoacryl injection in the management of post-banding ulcer bleeds.

MATERIALS AND METHODS

The medical records of all patients with upper gastrointestinal tract bleeds who underwent oesophagoduodenoscopy in our unit over the last four years were screened. Eleven of these had post-banding ulcer bleeding. These patients had active bleeding noted from post-banding oesophageal ulcers with

no other source of bleeding. Ten cases were treated with histoacryl injections and one stopped spontaneously during endoscopy without therapy.

RESULTS

The following table describes the 10 cases and their response to histoacryl injection. (Table I)

DISCUSSION

This study clearly shows the efficacy and safety of histoacryl injection in the treatment of post-banding ulcer bleeds.

CONCLUSION

Histoacryl injection should be considered when treating post-banding ulcer bleeds.

Table I: Distribution of patients by various parameters

Age	Aetiology	Child's Score	Number of Bands	Interval [^]	Amount ^{^^}	Efficacy ^{**}	Complications [#]
76	Hep B	C	2	8	2.5	No ^{^^^}	Nil
76*	Hep B	C	3	12	13	Yes	Nil
49	ETOH	A	4	14	0.5	Yes	Nil
49*	ETOH	A	4	8	4	Yes	Nil
49	Hep B	C	4	6	0.5	Yes	Nil
54	Hep C	C	1	42	0.5	Yes	Nil
55	ETOH	C	2	4	2	Yes	Nil
44	Hep B	C	4	3	0.5	Yes	Nil
42	Hep C	C	6	3	1	Yes	Nil
49	NCPH [@]	-	3	9	3	Yes	Nil

*same patient as the one in the above row but incidences happened more than 60 days apart

@non cirrhotic portal hypertension

[^]interval between banding and post-banding ulcer bleed

^{^^}amount of histoacryl injected in milliliters

^{**}defined as absence of clinical or biochemical evidence rebleeding sixty days post histoacryl injection

^{^^^}Patient rebled after two days. Endoscopy with further injection of 2cc histoacryl was effective.

[#]complications of histoacryl injection such as perforation, stenosis or embolism

Pattern of Colorectal Carcinoma in 124 Cases in North-Western Peninsular Malaysia

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SUMMARY

OBJECTIVE

To determine the demographics and clinicopathological features in a cohort of resected colorectal cancers.

MATERIALS AND METHODS

Demographic and clinicopathological information were retrospectively obtained from pathology records of patients who underwent bowel resection for colorectal carcinoma.

RESULTS

There were 124 cases from three institutions - 16 from Advanced Medical and Dental Institute, 25 - Hospital Pulau Pinang and 83 - Hospital Sultanah Bahiyah, Alor Star. Male to female ratio was 1.1: 1. Mean age was 60.5 (range 21 - 94 years). Majority of patients were above 50 years old (77%). There were 51.6% Malays, 37.9% Chinese, 8.9% Indians and two of other ethnic group. Three patients had two synchronous tumours each. A total of 126 colorectal carcinomas were analysed. Rectum constituted the most common site (56/126, 44.4%) followed in decreasing frequency by sigmoid colon (26/126, 20.6%), ascending colon (14/126, 11.1%), caecum (12/126, 9.5%), descending colon (11/126, 8.7%) and transverse colon (7/126, 5.6%). The left side colon was origin to 79.4% (100/126) cancers compared to right side colon (26/126). In the cases of synchronous

tumours, one showed two carcinomas arising in transverse colon, another had tumours in the rectum and caecum while the third case showed tumours in the ascending and descending colon. Majority had a fungating gross appearance (54%, 68/126) while ulcerative type was seen in 42.1% (53/126) and diffusely infiltrative type in 5 cases. The longest dimension of tumour measured in fixed specimens ranged from 15mm to 200mm with a mean of 56.9mm. Carcinomas were histologically typed as adenocarcinoma (no specific type) (88.1%, 111/126), mucinous - 10 cases, signet ring - 3 cases and neuroendocrine carcinoma - 2 cases. Histological differentiation of carcinomas were moderately differentiated in 70.6% (89/126), well differentiated - 15.1% (19/126) and poorly differentiated - 6 cases. Stage distribution of cancers was - Duke's Stage C (50%, 63/126), Stage B - 41.3% (52/126) and Stage A - 10 cases, Stage D - 1 case. Twenty one cases (16.7%) had evidence of polyps. Ten cases had single polyps and 17 polyps were of adenomatous type. One case had features of polyposis.

DISCUSSION AND CONCLUSION

Demographics and clinicopathological features are similar to that reported in other parts of Malaysia. Colorectal cancers were diagnosed at an older age, were more common in Malays, arise in the distal colon as large fungating masses and of moderate differentiation histologically. Majority were in advanced stages. However, it appears the cancer prevalence is increasing in females.

Is Bowel Preparation Better Given at Home or in the Ward?

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SUMMARY

BACKGROUND

Currently all patients needed colonoscopy are admitted to hospital one day before for the procedure for bowel preparation in medical department. Studies showed that bowel preparation is as effective as inpatient bowel preparation. We would like to find out if this would apply to our local setting in order to decrease the pressure in the bed situation.

OBJECTIVE

To find out if patients having bowel prep at home can have as good results compare to current practice. We would also look at the bowel preparation of those patients that are inpatients during this period, as a control, to compare their with the study groups.

MATERIALS AND METHODS

One hundred consecutive patients were recruited from outpatient from January 2007 till January 2008. Fifty were randomized to outpatient colonoscopy and 50 were randomized to inpatient colonoscopy. The bowel preparation we used were oral fleet 90mls at 2pm and 7pm the day before the procedure. Informed consent was taken before they were recruited for the trial. Both groups were given the same instruction on how to take the bowel prep. At the same time we also monitor the inpatients who were referred to us for colonoscopy. Patients who are not able to follow the instruction or not fit enough physically to take bowel prep at home were excluded from the study.

RESULTS

Total of 150 patients were included into the study. Fifty inpatients, 50 outpatients, and 50 current inpatients. Ninety-six male and 54 female. 64% Malay, 28.7% Chinese, 4% Indians, 3.3% Others. The bowel prep findings were compatible in both arms. Outpatient arm's mean bowel prep score was 1.96 and the inpatient arm was 2.28. They were not statistically significant ($p > 0.05$). When the study arms were compared with the control arm which were the current inpatients, the findings were more inferior and was statistically significant. The acute inpatient arm scored 3.02 on the bowel prep scale whereas the study groups have an average of 2.08. ($p < 0.05$).

CONCLUSION

Colonoscopy is a very common medical investigation. In average, it will take up to two medical bed days for patients if it is done as inpatient procedure. Total of 317 colonoscopies were done in Hospital Sultanah Bahiyah Gastroenterology Unit in 2007. Two hundred and fifty two were done as inpatients. If these patients were done as outpatient basis, we would have potentially safe the hospital 504 beds /day last year. Given that we have currently four medical wards with 28 beds, we could potentially free up the entire medical ward for more than 4.5 days a year!

Based on this study, we would recommend that all the colonoscopy in the medical department should be performed as outpatient basis if the patients are medically fit to do so.

Table: Bowel prep was graded according to the table below

Score	Stool amount	Stool consistency	Wall visualized	Overall assessment
0	None	None	>90%	Excellent
1	Small	Clear lavage	75-89%	Excellent
2	Moderate	Liquid stool	50-74%	Good
3	Large	Particulate stool	<49%	Fair
4		Semi-solid stool		Poor
5		Solid stool		Very Poor

The EQ-5D (EUROQOL) is a Valid Generic Instrument for Measuring Quality of Life in Patients with Dyspepsia

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SUMMARY

INTRODUCTION

There is little information of the validity of generic instruments in measuring health-related quality of life (HRQoL) in patients with dyspepsia.

OBJECTIVE

To assess the acceptability, reliability and validity of the EQ-5D in measuring HRQoL in adult dyspeptics.

MATERIALS AND METHODS

Consecutive adults with dyspepsia attending the Gastroenterology clinic in a tertiary referral center were interviewed with the EQ-5D (both English and Malay versions), the short-form Nepean Dyspepsia Index (SF-NDI), the SF-36 and Leeds Dyspepsia Questionnaire (LDQ). Known-groups and convergent construct validity were investigated by testing hypotheses at attribute and overall levels. A repeat telephone interview was conducted two weeks later to assess test-retest reliability.

RESULTS

A total of 113 patients (mean (SD) age: 53.7 (14) years; 49.5% male; 24.8% Malays, 37.2% Chinese; 70.8% functional dyspepsia) were recruited. Response rate was 100% with nil missing data. Known-groups validation revealed 20/ 26 hypotheses fulfillment. Patients with more severe dyspepsia reported more problems with their usual activity ($p=0.07$) and pain ($p=0.06$) and demonstrated lower median VAS scores (60 vs 70, $p=0.002$) and EQ-5D utility scores (0.72 vs 0.78, $p=0.002$). Those reporting problems in various EQ-5D dimensions had significantly lower scores in relevant SF-36 and SF-NDI dimensions. The overall EQ-5D utility score also demonstrated good correlation with the SF-36 summary physical and mental scores and the SF-NDI total score. Intraclass correlation coefficient for test-retest reliability was 0.66 (95% CI = 0.55 - 0.76).

CONCLUSION

The EQ-5D is an acceptable, valid and reliable generic instrument for measuring HRQoL in adult patients with dyspepsia.

Quality of Life in South East Asian Patients Who Consult for Dyspepsia: Validation of the Short Form Nepean Dyspepsia Index

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SUMMARY

BACKGROUND

Treatment objectives for dyspepsia include improvements in both symptoms and health-related quality of life (HRQoL). There is a lack of disease-specific instruments measuring HRQoL in South East Asian dyspeptics.

OBJECTIVE

To translate and validate the Short-Form Nepean Dyspepsia Index (SF-NDI) in Malaysian patients who consult for dyspepsia.

MATERIALS AND METHODS

The SF-NDI was translated into a Malay version using standard procedures. English or Malay versions of the SF-NDI were assessed against the SF-36 and the Leeds Dyspepsia Questionnaire (LDQ), examining internal consistency, test-retest reliability and construct validity.

RESULTS

Pilot testing of the Malay SF-NDI in ten Malay subjects did not identify any cross-cultural adaptation problems. Validation in 113 patients (mean (SD) age: 53.7 (14) years; 49.5% male; 24.8% Malays, 37.2% Chinese and 36.3% Indians; 70.8% functional dyspepsia) showed a median total SF-NDI score of 72.5 (interquartile range 52.5 - 85.0). 62% were interviewed in English and the overall response rate was 100% with nil missing data. Test-retest reliability and internal consistency were good with intraclass correlation coefficient of 0.91 and Cronbach's $\alpha = 0.81 - 0.96$ respectively. SF-NDI sub-scales and total score demonstrated lower values in patients with more severe symptoms and in patients with functional vs organic dyspepsia (9/12 hypotheses fulfilled relating to known-groups validity). There was moderate to good correlation between all SF-NDI sub-scales and non-physical domains of the SF-36 (convergent validity).

CONCLUSION

Both English and Malay versions of the SF-NDI are reliable and valid instruments for measuring HRQoL in Malaysian patients with dyspepsia.

The Identification of NOD2/Card15 Mutations in Malaysian Patients with Crohn's Disease

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SUMMARY

INTRODUCTION

The *NOD2/CARD15* gene is identified as an important susceptibility gene for Crohn's disease (CD) and the aim of our study was to look for the common disease predisposing mutations (DPMs) in our multiracial population.

MATERIALS AND METHODS

Blood samples from consecutive CD patients and healthy controls were obtained and analyzed for the three common mutations (R702W, G908R, 1007fs) but we also looked for the SNP5 and JW1 variants which are associated with CD in the Ashkenazi Jews. PCR-RFLP technique was used to identify the mutations which were confirmed by sequencing. Baseline demography and clinical characteristics of the CD patients were recorded.

RESULTS

Forty-five patients with confirmed CD and 300 controls were recruited. The three common DPMs were not observed in either the CD patients or the controls. However, the SNP5 mutation was identified in 6 (13.3%) CD patients and the JW1 mutation in 8 (17.8%) different patients which were not found in the controls. ($p < 0.001$). The SNP5 mutation was present only in Indians. There was a trend towards younger age of onset and stricturing disease in patients carrying the JW1 mutation.

CONCLUSION

These findings suggest the presence of novel DPMs in the *NOD2/CARD15* gene in Asian patients with CD.

Short Term Naso-Gastric Feeding in Hospitalised Patients with Advanced Cirrhosis: Preliminary Data from a Randomised Trial

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SUMMARY

BACKGROUND

Malnutrition is common in patients with advanced liver cirrhosis. Enteral feeding over a prolonged period has been shown to have clinical benefits. It is uncertain if short-term nasogastric (NG) feeding confers any advantage in patients with cirrhosis.

OBJECTIVE

1) To compare the effect of short-term NG feeding versus standard oral feeding on the nutritional and clinical status of Malaysian patients with advanced cirrhosis; 2) To assess tolerance of NG feeding in Malaysian patients with liver cirrhosis.

MATERIALS AND METHODS

In this prospective, single-centre, randomized controlled trial, patients with decompensated liver cirrhosis who were admitted to the ward were recruited following informed consent. Patients were randomized to either NG or oral feeding using a computer-generated system. The period of nutritional intervention was planned for two weeks with a follow up observation at six weeks. Baseline demography, nutritional and clinical parameters were assessed at baseline, week 2 and week 6. The primary outcome for this study were related to changes in nutritional markers, with changes in liver function as a secondary end-point.

RESULTS

A total of 42 patients with liver cirrhosis were screened between 1st July 2006 and 28th February 2007 and 39 agreed to participate. Twenty patients received NG feeding and 19 patients were randomized to oral feeding. Baseline parameters revealed significant differences in both groups. The NG group had a higher mean Child-Pugh score

(11.1 ± 1.6 vs 9.2 ± 1.4 , $p=0.001$) and poorer nutrition status as assessed by proportion of SGA group C (45% vs 15.8%, $p=0.082$), lower BMI (23.3 ± 5.8 vs 26.7 ± 5.5 , $p=0.064$), lower MAC (24.8 ± 5.2 vs 29.1 ± 5.9 , $p=0.021$), lower serum albumin (19.0 ± 5.2 vs 22.7 ± 6.1 , $p=0.047$) and serum transferrin (1.3 ± 0.6 vs 2.0 ± 0.6 , $p=0.001$) compared to the oral group. 15/20 patients of the NG group and 16/19 patients in the oral group completed the period of nutritional intervention. Measurements and analysis was performed at day 10 (instead of day 14) in most patients due to poor tolerance with NG tube placement. 11/ 19 (57.9%) patients had poor tolerance (VAS score < 50) to NG tube placement. Total mean calorie intake was significantly higher in the NG group compared to the oral group (2079.8 ± 472.4 vs 1464.6 ± 356.0 , $p<0.0001$). Nutritional markers in the form anthropometry (TST mean difference 0.11 ± 1.52 , MAC mean difference 0 ± 0.13 , hand grip mean difference -0.07 ± 5.58), biochemical impedance (FFM mean difference 6.02 ± 20.91 , BCM mean difference 1.00 ± 7.95) and biochemistry (serum albumin mean difference 0.67 ± 3.68 and serum transferrin mean difference 0.17 ± 0.36) showed more improvement in the NG group compared to the oral group, although all changes were not statistically significant. Liver function showed some improvement in the NG (mean difference in Child-Pugh score -1.5 ± 3.1 , $p=0.068$) compared to the oral group (mean difference in Child-Pugh score -1.0 ± 2.3 , $p=0.087$). After 6 weeks, 12/ 20 NG patients and 14/ 19 oral patients were available for measurements and analysis. Nutritional and clinical parameters in both groups had minimal changes of no statistical or clinical significance.

CONCLUSION

Our preliminary data has demonstrated that short-term NG feeding provides more energy (calories) than oral supplementation in Malaysian patients with advanced cirrhosis. However, NG tubes were poorly tolerated. Larger numbers of patients are required to determine actual efficacy of short-term NG feeding in such patients.

Colonoscopy Outcome and the Predictive Factors in HRPZ II, Kota Bharu from July 2007 till December 2007

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SUMMARY

OBJECTIVE

We evaluated the outcome of colonoscopy and the factors that predicts the outcome in HRPZ II from July till December 2007. We also assessed the indications for colonoscopy, the colonoscopic findings and reason for failed colonoscopy.

MATERIALS AND METHODS

The notes of patients who had colonoscopy from July 2007 till December 2007 were reviewed. Univariate and multivariate analysis was used to look for independent predictive factors.

RESULTS

Total of 274 cases were analysed. 158(57.7%) had complete colonoscopy and 116(42.3%) had incomplete colonoscopy. The mean age in the completed group was 54.9+15.7 and

91(57.6%) are males. The incomplete group consists of 67(57.8%) males and mean age was 60.5+17.1. The indication mostly was change in bowel habit 30(15.7%) and per rectal bleed 28(14.6%). The main reason for incomplete colonoscopy was poor bowel preparation 27(33.8%) followed by looping 14(17.5%). 153(56.2%) were intubated till caecum and only 10(7.1%) had terminal ileum intubated. The majority of cases were normal 137(50%). Approximately 21(7.7%) had cancer of rectum 20(7.3%) had polyps. Univariate analysis showed two variables with p value less than 0.2, bowel preparation and experience. Multivariate analysis showed that bowel preparation was the only predictive factor contributing to the outcome of colonoscopy.

CONCLUSION

The colonoscopic completion rate was 57.7%. The study concludes that the outcome of colonoscopy in our centre is only influenced by the quality of bowel preparation.

Yield of EUS FNA from a Newly Established Centre

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SUMMARY

INTRODUCTION

Endoscopic Ultrasound (EUS) is a relatively new modality that has recently been established in Malaysia. EUS is utilized for diagnostic as well as therapeutic purposes. EUS has advantages over other therapeutic modalities in that it is able to visualize and the operator using a linear echoendoscope is able to obtain tissue from locations that have previously been deemed unreachable using standard 'non invasive' modalities. An EUS service was recently established in Hospital Sultanah Aminah, Johor Bharu.

MATERIALS AND METHODS

We conducted a retrospective analysis of all patients who underwent EUS Fine Needle Aspiration (EUS-FNA) from September 2007 to May 2008.

RESULTS

A total of 56 patients underwent EUS-FNA during the study period. The records of nine patients could not be traced due to errors in documentation of patients particulars. In total, records of 47 patients were located and analyzed. The overall results are in Table I.

In total, 38 patients had diagnostic aspirates. Nine patients had false negative aspirates. The overall diagnostic yield of EUS FNA was 80.85%. The false negative rate was 19.15%.

Table I: Distribution of patients by diagnosis

Diagnosis	No of patients
Carcinoma	20
Cellular atypia – suspicious of malignancy	3
Lymphoma	3
Tuberculosis	4
Gastrointestinal Stromal Tumor	1
Sarcoidosis	1
Benign lesions (chronic pancreatitis, pancreatic abscess)	4
Inflammatory lymphadenopathy	2
Non diagnostic aspirate	9

Table II: Gives a summary of the FNA procedures done according to the site of puncture

Site of FNA	No of pts
Head of pancreas	13
Mediastinal lymph nodes	8
Intra-abdominal lymph nodes	15
Pancreatic body	2
Left adrenal	1
Left lobe of liver	3
Hilar	4
Intra-abdominal mass	1

DISCUSSION

From our retrospective analysis, we have demonstrated that EUS-FNA is a useful tool in accessing previously difficult to reach areas. The overall yield is acceptable and comparable to previously published data. As this is a new service, there is a learning curve in terms of operator experience and also organization and storing of records. We have remedied certain processes to prevent records from being lost in the future. Unfortunately we do not have the service of a cytopathologist or a cytotechnician during the EUS-FNA. This could significantly reduce procedure time and also help improve yield.

EUS FNA of Large Intra-Abdominal Lymph Nodes – An Asian Experience

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SUMMARY

INTRODUCTION

With the introduction of linear array echoendoscopes, Endoscopic Ultrasound (EUS) has become the modality of choice in many centres to obtain tissue from anatomical areas that have previously been deemed unreachable by conventional radiological methods. Although the utility of EUS has been proven time and again, many skeptics still doubt the ability of EUS to provide tissue for adequate diagnosis. We conducted a retrospective analysis of our records to analyze the yield of EUS Fine needle aspiration (EUS-FNA) in patients who presented with large intra-abdominal lymph nodes.

MATERIALS AND METHODS

EUS was first introduced in our centre in September 2007. We analyzed the records of all patients who underwent EUS from September 2007 to May 2008. A total of 198 EUS procedures were performed during the study period. EUS-FNA was carried out on 57 patients in total. We only included patients who had intra-abdominal lymph nodes measuring >2cm, no evidence of peripheral lymphadenopathy, no mediastinal lymph nodes and no evidence of a primary solid organ tumor. A total of 15 patients satisfied these inclusion and exclusion criteria.

RESULTS

Table I summarizes the results according to the final diagnosis made by EUS-FNA. In total EUS FNA gave conclusive results in 9 out of the 15 patients, giving a yield of 60%. In two patients that the EUS FNA showed atypical cells, these patients were later diagnosed to have metastatic carcinoma. Four patients had non diagnostic aspirates from EUS FNA. All these patients were later diagnosed with lymphoma.

Four patients were diagnosed to have intra-abdominal tuberculosis by EUS-FNA. All these patients were diagnosed based on caseating granulomas from the aspirate. None of these patients were positive for Acid fast bacilli direct smear. None of these patients had evidence of pulmonary tuberculosis.

Table I: Distribution of patients by diagnosis

Diagnosis from FNA	No of patients
Carcinoma	1
Lymphoma	2
Atypical cells suspicious of malignancy	2
Tuberculosis	4
Inflammatory lymph node	2
Non diagnostic aspirate	4

CONCLUSION

When we compared this series of patients to our patients who presented with mediastinal lymphadenopathy, in that group, 62% (5 out of 8 patients) of patients were diagnosed with carcinoma compared to only 20% (3 out of 15) patients with intra-abdominal lymph nodes. Interestingly, in our region, tuberculosis is a very prominent diagnosis and EUS-FNA was accurate in all these patients. Often, the direct smear is negative and diagnosis is made on finding caseating granulomas on the aspirate. The highest group of false negatives were in patients with lymphomas. EUS-FNA is often inadequate for the diagnosis of lymphoma and the lack of an on-site cytopathologist in our centre has affected our yield. This retrospective analysis confirms that EUS-FNA should be the first line modality for a tissue diagnosis in patients with large intra-abdominal lymph nodes in this part of the world.

Clinical Utility of the ¹³C-Methacetin Breath Test (MBT) in Diagnosing Liver Fibrosis and Cirrhosis

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SUMMARY

INTRODUCTION

There is an increasing need for alternative noninvasive methods to diagnose fibrosis and early cirrhosis. Recently, the ¹³C methacetin breath test (MBT) has shown promise in its' ability to discriminate between healthy controls and patients with chronic liver disease.

OBJECTIVE

The accuracy of ¹³C MBT in predicting liver fibrosis and cirrhosis grades amongst patients with chronic liver diseases was assessed against established clinical methods.

MATERIALS AND METHODS

All suitable patients with suspected liver disease were recruited. Fibrosis and early cirrhosis were confirmed by liver biopsy. Advanced cirrhosis (Child-Pugh grade B & C) was diagnosed in individuals with definite portal hypertension, clinical features of decompensation and/ or radiological imaging. ¹³C MBT was performed in a standard manner in all patients. Pre-determined 'cut-off' values for metabolisation capacity (cumulative recovery) at 40 minutes, based on the manufacturers' reference, were assessed against clinical diagnoses of hepatic fibrosis and cirrhosis Child-Pugh grades A - C.

RESULTS

Seventy-seven people (47 men / 30 women, mean age 50 +/- 16 years) participated in the study. The aetiology of liver disease was as follows: Hepatitis B n=23; Hepatitis C n=18; Alcohol n=12; NAFLD n=7; others n=17. Forty-seven patients had liver cirrhosis (Child Pugh A=11, Child Pugh B=15 and Child Pugh C=21) and 30 had fibrosis of various stages. ¹³C MBT cumulative recovery at 40 minutes demonstrated differences in patients with fibrosis (mean 0.72 +/- 0.17 versus 0.85 +/- 0.20, p=0.081) and cirrhosis (mean 0.25 +/- 0.22 versus 0.76 +/- 0.19, p=0.001).

The table below demonstrates the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of MBT values for various stages of liver disease. (Table I)

CONCLUSION

The ¹³C MBT is predictive of cirrhosis only, but appears to have limited clinical value in identifying fibrosis or cirrhosis grades in our population.

Table I: Sensitivity, Specificity and Predictive values by stages of liver disease

	MBT 40			
	Sensitivity	Specificity	PPV	NPV
Cirrhosis	89%	83%	89%	83%
Fibrosis	65%	82%	56%	87%
Child Pugh A	67%	83%	42%	93%
Child Pugh B	40%	85%	40%	85%
Child Pugh C	50%	95%	77%	84%

Malnutrition in Cancer of the Gastrointestinal Tract

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SUMMARY

BACKGROUND

Nutrition is undoubtedly one of the fundamental elements that require careful consideration to ensure good patient outcome. This is especially true in patients with gastrointestinal cancers.

MATERIALS AND METHODS

In a prospective study, forty-seven hospitalized patients from a single tertiary gastrointestinal referral centre, were interviewed between February 2007 until July 2007, using the validated, Scored Patient Generated Subjective Global Assessment (PG-SGA) questionnaires. Patients were divided into different groups based on their disease entities and scores were given based on their performances in the PG-SGA.

RESULTS

Fifty-five percent of hospitalized gastrointestinal cancer patients in our study population had PG-SGA scores of more than nine (indicating critical needs for improved symptom management and/or nutrient intervention options) and

thirty-two percent were rated SGA-C (severely malnourished). Patients with upper gastrointestinal cancers are the ones at higher risk of malnutrition. Sixty-four percent of patients with upper gastrointestinal tract cancers had scores more than 9 in the PG-SGA and 46% were rated SGA-C. Forty-three percent of patients with lower gastrointestinal cancers were rated SGA-B, suggesting for the need to address nutritional issues perhaps more aggressively, despite the conventional belief that malnutrition may not play so much role in lower gastrointestinal cancers. The data for other gastrointestinal tract cancers was only represented by one patient with advanced pancreatic cancer and therefore would not reflect the actual prevalence of malnutrition in this population.

CONCLUSION

Our results confirmed that malnutrition is prevalent in patients with gastrointestinal tract cancers. This is true for patients with both upper and lower gastrointestinal tract cancers. The relatively high incidence of SGA-B in patients with lower gastrointestinal tract cancers in our study population, implicate the need to address nutritional issues efficiently.

Quality of Life Assessment in Malaysian Ostomates

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SUMMARY

BACKGROUND

Assessment in the quality of life is a major issue pertaining to patients with gastrointestinal stomata. Patients with gastrointestinal stomas bear significant physical, psychological, social and sexual handicap.

MATERIALS AND METHODS

In a prospective study, one hundred and two 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.

RESULTS

Patients in the study population responded similarly 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 of the study group.

Thirteen percent (n=13) of patients in the study group scored severely in the social domain. Furthermore, fifty percent (n=51) reported dire financial handicap. Seventy-three percent (n=74) scored very poorly on sexuality issues. Only eight percent (n=8) found life with stoma severely restricting. Fifty-four percent (n=33) of the Muslim population under study felt the stoma to be incompatible with their religious duties.

CONCLUSION

Stoma has a profound impact on the quality of life of its recipients. A multidisciplinary approach addressing lifestyle issues in stoma patients is fundamental in the management of these patients. Preoperative counseling for patients undergoing stoma surgery should address physical, social, sexual and psychological aspects of living with a stoma. Muslim patients should be offered religious education and counseling regarding possible religious issues after the surgery.

Ano-Coccygeal Support in the Treatment of Idiopathic Chronic Posterior Anal Fissure (ICPAF): A Clinical Evaluation

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SUMMARY

BACKGROUND

Idiopathic chronic posterior anal fissure (ICPAF) is believed to be a consequence of an acute anodermal epithelial tear followed by recurrent inflammation and anodermal healing breakdown due to relative tissue ischaemia secondary to internal sphincter hypertonicity and spasm. Surgical intervention continues to be the main form of treatment albeit with inherent risks or complications.

MATERIALS AND METHODS

A novel manufactured posterior ano-coccygeal support, attached to a standard toilet seat was prospectively evaluated in 30 patients (median age 43 years; age range 20-71 years) with confirmed idiopathic chronic posterior fissures (median duration 12 months; duration range 4 months – 120 months). All the patients had no prior surgery and had failed non-specialist conservative management. The results were compared with a control arm of 22 patients (median age 40 years; age range 21-60 years) who underwent lateral internal sphincterotomy with confirmed ICPAF. Visible healing of the fissure on follow-up was considered as the primary end point.

RESULTS

All the patients in the control arm (100%) experienced improved symptoms within two weeks and complete healing by eight weeks. However, six patients (27%) complained of temporary gas incontinence and higher pain score in the immediate post operative period. Twenty four of the patients in the treatment arm (96%) reported improved symptoms within two weeks with complete healing by eight weeks (median duration of visibly healed anoderm at six weeks). Perseverance with the utilisation of the ano-coccygeal support (median follow up of six months) demonstrated no recurrent fissure. No incontinence was reported in any of the patients treated with the ano-coccygeal support.

CONCLUSION

The results of this trial demonstrates promising results for patients with ICPAF treated with the ano-coccygeal support with significant improvement in symptoms as well as complete healing of fissures. A randomised study comparing ano-coccygeal support versus surgery is required to confirm the benefit of this method.

EUS Guided Pseudocyst Drainage: A New Modified Approach

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SUMMARY

The management of pancreatic fluid collections (PFC) has evolved over the past two decades. Endoscopic therapy which was first described by Sahel et al and Cremer et al has become an established form of PFC management. Standard endoscopic therapy generally entails the use of a side viewing duodenoscope with the use of a needle knife to create a fistulous cystgastrostomy or duodenostomy. The introduction of therapeutic Endoscopic Ultrasound (EUS) has given endoscopists an alternative modality to drain PFCs. EUS guided cyst drainage has advantages over standard therapy in its ability to localize vasculature, exclude underlying cystic neoplasms and its non dependence on a bulge to perform puncture. We report three cases in which we used EUS and a device called a cystotome to drain PFCs.

PROCEDURAL TECHNIQUE

All patients had a documented PFC on CT. EUS was performed using a linear echoendoscope (EG-3830UT, Pentax Medical Company) which has a 3.8mm working channel. Patients were placed in the left lateral position. Under EUS guidance, the cyst cavity was punctured using a 19G needle (Cook Medical, Inc, Winston-Salem, NC). Cyst fluid was aspirated and sent for bacteriological examination. A 0.035-inch Jag guidewire (Boston Scientific, Boston, MA) was then coiled in the cyst cavity under fluoroscopic guidance. The needle was subsequently withdrawn over the guidewire. A cystotome (Cook Medical Inc, Winston-Salem, NC) was then employed. It consists of an inner wire with needle knife tip, a 5 Fr inner sheath, and a 10 Fr outer sheath equipped with a diathermic ring at its distal tip. The inner sheath with the needle knife tip was removed and the outer 10Fr sheath was placed over the 0.035-inch guidewire. The cyst wall was punctured using continuous pressure and cutting current applied by the outer sheath. After successful puncture, the outer sheath was removed and a CRE balloon dilator (Boston Scientific, Boston, MA) was used to dilate the cystenterostomy to 12mm. A 5cm 10Fr Solus double pigtail stent (Cook Medical Inc, Winston-Salem, NC) was placed directly over the guidewire with a pushing catheter. A second 0.035-inch guidewire was placed into the cyst cavity using a straight catheter and a second 10Fr double pigtail stent was deployed.

CASE 1

A 53 year old gentleman presented with recurrent vomiting and fever. He gave a history of long standing alcohol abuse.

A trans-abdominal ultrasound revealed a cystic lesion in the region of the head of pancreas. A CT abdomen revealed a 5cm x 4cm cystic lesion in the head of pancreas causing duodenal obstruction. The head of pancreas was grossly calcified. An EUS demonstrated a pancreatic gland with changes consistent with chronic pancreatitis and a cyst in the head. A cyst-duodenostomy was performed and frank pus drained out. His fever settled immediately and was able to eat normally within a few days. A repeat CT two months later showed resolution of the cystic lesion and the stents were removed. He remains asymptomatic.

CASE 2

A 31 year old gentleman was admitted to the hospital with a complaint of vomiting and abdominal pain two months earlier, he was admitted to ICU for 10 days for severe necrotizing pancreatitis. A CT demonstrated a 15cm pseudocyst. He underwent a cyst-gastrostomy with the placement of 2 double pigtail stents. Three days after the procedure he developed a high spiking temperature. A repeat CT showed the collection to be 10cm with multiple air pockets within. He underwent a 2nd procedure, this time using a duodenoscope (TJF-160; Olympus). A 0.035-inch guidewire was threaded between the double pigtail stents and the cyst-gastrostomy was dilated using the CRE balloon dilator to 15mm. Copious amount of pus drained out. A 3rd double pigtail stent was placed and another guidewire was placed in the cavity and a 7Fr nasocystic catheter was placed. The cyst cavity was irrigated with normal saline 6 hourly for the next five days. The patient's fever settled immediately after the 2nd procedure and was discharged well. A repeat CT two months later demonstrated a small residual cyst measuring 3cm in the head of pancreas. He is asymptomatic and remains well.

CASE 3

A 56 year old lady who was diagnosed with necrotizing pancreatitis four months earlier, presented to our hospital four weeks prior with a complaint of abdominal pain, vomiting and fever. She was diagnosed to have an infected pseudocyst by CT imaging. She then underwent percutaneous drainage of the pseudocyst. Unfortunately her fever did not settle and a 2nd percutaneous procedure was carried out. Despite broad spectrum intravenous antibiotics, she continued to spike a temperature. A repeat CT of the abdomen demonstrated a 7cm cyst with multiple air pockets within. She was then referred for EUS drainage. An

Endoscopic Retrograde Pancreatography (ERP) was performed first and it demonstrated a complete disruption of the pancreatic duct and contrast flowing into a large cystic collection. A 5cm 5Fr single pigtail stent was placed in the pancreatic duct. During the EUS drainage procedure, a cystgastrostomy was performed with drainage of a large amount of pus. Two 10Fr double pigtail stents and a 7Fr nasocystic drain were placed. Irrigation was carried out for five days and the nasocystic drain was removed. The patient became afebrile two days after the EUS drainage. The patient was discharged after a week and a repeat CT a month later demonstrated a small 2cm residual cyst.

DISCUSSION

EUS guided drainage of PFCs affords the endoscopist good visualization of intervening vasculature and allows puncture in locations without a visible bulge. The main drawbacks of the EUS procedure is the often tangential angle of puncture, the difficulty to maintain scope position and the smaller working channel of the echoendoscope compared to the duodenoscope. Endosonographers have employed a variety

of techniques to circumvent these issues such as localization of the cyst and puncture using an echoendoscope and subsequently continuing the procedure using a duodenoscope, using a standard triple lumen needle knife for initial access and dilating the cystenterostomy using multiple bougie dilators without electro-surgical current. All these maneuvers add significant time to the procedure. Our initial access is with the 19G needle. Compared to the needle knife and the inner sheath of the cystotome, accurate positioning and stability can be maintained with the 19G needle. This is crucial in order to avoid intervening vascular structures. With the wire in place, the endosonographer has full control. Only the outer sheath of the cystotome is used over the guidewire and the track is electro-surgically dilated to 10Fr. The track is then dilated to 12mm using the CRE balloon. We found that this enables easy recannulation of the cyst cavity after deploying the first stent.

We describe a technique that uses a modified approach with a cystotome. We believe this provides a more stable positioning of the scope and reduces procedural time compared to previously described techniques.

Late Presentation of Esophageal Cancer in a Multiracial South East Asian Population

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SUMMARY

OBJECTIVE

Esophageal cancer (ECA) is an important cancer in Malaysia. The aim of the study is to review the demographic data and clinical presentation of patients with ECA seen at the University of Malaya Medical Centre, Kuala Lumpur.

MATERIALS AND METHODS

Patients with histologically proven ECA were recruited for the study. Patients' case notes, endoscopy and operating theater records were reviewed. All cases were histologically confirmed.

RESULTS

One hundred and forty three patients with ECA were diagnosed between 1998 to 2003. The mean age of patients was 63.1 + 12.1 years with a male: female ratio of 1.8. 50.3% were Indians, 32.9% Chinese and 16.8% Malays. The majority of ECA were squamous cell carcinoma – 113 (79.0%). The location of these tumors was: upper - 52 (46.0%), middle- 16 (14.2%) and lower - 45 (39.8%). The remaining 30 patients were diagnosed to have adenocarcinoma and were all located distally at the cardioesophageal junction. ECA according to stage at diagnosis were: II- 18 (12.6%), III- 23 (16.1%) and IV- 102 (71.3%). Only 23 (16.8%) patients underwent surgery- 13 (9.1%) were considered curative. One hundred and three (72.0%) patients underwent palliative endoscopic stenting and six, other palliative therapy including radiotherapy.

CONCLUSION

ECA presents late in our patients with only a minority of patients able to undergo curative surgery.

Ng C C	56	Sapari S	24
Nik Raihan N	52	Saravana K K	36
Nor Aizal C H	19, 29, 30	Saw C W	45
Noridah N	19	Selvindoss P	48, 50
Nurhayaty M	61	Shamsul A S	28, 61
O		Shanthi P	56
Ong H C	45	Sharmila S	51
Ong T Z	28	Sheikh A A	26, 27, 28
Ooi B P	41, 42, 43, 53	Shiffman Mitchell L	6
Ooi London L	26	Singh H	39, 40
P		Siti H	57
Pabrinder K	49	Soon S Y	37
Pakravan A	22	Subathra S	21, 52
Palaniappan S	36	Sudirman A	47, 48, 50
Parasakthi N	34	Sundeeep P	9
Ponnudurai R	60	T	
Q		Tai L M S	61
Qua C S	20, 31, 32, 34, 35, 44	Tai M L S	57
R		Tan H J	17
Radzi M	18, 21, 41, 42, 43, 52, 53	Tan O K	33, 51
Raihan N	21	Tan S S	33, 51
Raja Ali R A	22	Thein S S	29, 30
Rajesh K P	58	V	
Rajesh P	29	Vasu P L	46
Raman K	45	W	
Raman M	39, 40	Wee H L	54, 55
Ramesh G	47, 48, 49, 50	Wong C H	20, 44
Rampal S	42, 43, 57	Wong H S	59
Reynu R	58	Y	
Rizal I A	65	Yang Y W	24
Rosemi S	29, 30, 58	Yothasamutr K	45
Roslan H	28	Z	
S		Zaidi M	19
Sachithanandan S	33	Zainodin H J	39, 40
Salahudin B	46	Zawawi F M	33
Salmi M S	63	Zubaidah N H	62, 63
Sanjiv M	54, 55, 57	Zulqueirain A	22