THE MEDICAL JOURNAL OF MALAYSIA VOL. 64 SUPPLEMENT B AUGUST 2009

Official Journal of the
Malaysian Medical Association

The Medical Journal of Malaysia

GUT 2009
Annual Scientific Meeting
Malaysian Society of Gastroenterology and Hepatology

14th - 16th August 2009
Langkawi
Kedah, Malaysia

Volume : 64

Supplement B

August 2009

ISSN 0300-5283 PP 2121/12/2010 (023137) MITA (P) 124/1/91

MJM

Official Journal of the Malaysian Medical Association

Volume 64 Supplement B August 2009

EDITORIAL BOARD

PP 2121/12/2010 (023137) MCI (P) 124/1/91 ISSN 0300-5283

The Medical Journal of Malaysia is published five time a year
i.e. March, June, August, October and December.

Advertisement Rates:
Enquiries to be directed to the Secretariat.

Subscription Rates:
Price per copy is RM70.00 or RM300.00 per annum, for all subscribers.

Secretariat Address:
Malaysian Medical Associaton
4th Floor, MMA House, 124 Jalan Pahang, 53000 Kuala Lumpur
P.O. Box S-20, 51700 Kuala Lumpur
Tel: (03) 4042 0617, 4041 8972, 4041 1375 Fax: (03) 4041 8187
E-mail: info@mma.org.my / publications@mma.org.my
Website: www.mma.org.my

Printed by: Azifa Trading (001025672-P)
K-0-4, Ground Floor, Desa Rejang, Setapak 53300 Kuala Lumpur
Tel: 03-4025 2513 Fax: 03-4022 6741 Email: info@azifa.com.my Website: www.azifa.com.my

MJM

NOTICE TO CONTRIBUTORS

The Medical Journal of Malaysia welcomes articles of interest on all aspects of medicine in the form of original papers, research notes, communications and correspondence. The MJM also welcomes brief abstracts, of not more than 50 words, of original papers published elsewhere, concerning medicine in Malaysia. Articles are accepted for publication on condition that they are contributed solely to the Medical Journal of Malaysia. Neither the Editorial Board nor the Publishers accept responsibility for the views and statements of authors expressed in their contributions. The Editorial Board further reserves the right to reject papers read before a society. To avoid delays in publication, authors are advised to adhere closely to the instructions given below.

Manuscripts:
All manuscripts should be submitted in triplicate to :

Hon Editor,
Medical Journal of Malaysia,
Malaysian Medical Association,
4th Floor, 124 Jalan Pahang,
53000 Kuala Lumpur

Manuscripts should be typed on one side of A4 paper in double-spacing throughout (including tables, legends and references), with wide margins.
An electric typewriter, letter quality or laser printer should be used. Do not use a dot-matrix printer. 'San Serif' typefaces/fonts such as Helvetica are preferred.
The title page should state the title of the paper, initials and name(s) of the author(s), degrees [limited to one degree or diploma] and address(es). The name and address of the author for correspondence should be clearly indicated.
Names of authors should be written in style of initials followed by the surname or preferred name e.g. K G Lim for Lim Kean Ghee or B S Gendeh for Balwant Singh Gendeh. For those without surnames, the MJM would like to suggest that authors use their given name in place of their surname e.g. M Z Azhar for Azhar bin Md Zain, K Suresh for Suresh Kumarasamy or S Harwant for Harwant Singh. Authors however, who have previously published should try as much as possible to keep the abbreviation of their name consistent.
Summary, Introduction, Materials and Methods, Results, Discussion, Acknowledgment and References should follow each section beginning on a fresh page.
Papers may be submitted in Bahasa Malaysia but must be accompanied by a short summary in English.
Scientific names, foreign words and Greek symbols should be clearly indicated and underlined.

Reviewers:
Authors may submit the names of two possible reviewers whom they feel are qualified and suitable to review their paper, who are not involved in the work presented, and from another institution. This may hasten the process of peer review. Authors need not obtain the permission of these possible reviewers' as it is both the responsibility and perogative of the MJM approach them.

Case Reports:
Papers on case reports (one to five cases) must follow these rules : maximum of 1000 words; only one table is allowed; maximum of two photographs; only up to five reference quoted.
Having a unique lesson in the diagnosis, pathology or management of the case is more valuable than mere finding a rare entity. Being able to report the outcome and length of survival of a rare problem is more valuable than merely describing what treatment was rendered at the time of diagnosis.

Short Communications:
Short communications should not exceed 1,000words and shall consist of a Summary and the Main Text. The number of figures and tables should be limited to three and the number of references to five.

Letters to the Editor:
Such correspondences must not exceed 450 words.

Summary and Key Words:
A summary of not more than 100 words should be provided immediately after the title page. Below the summary, provide and identify 3 to 10 key words or short phrases that will assist indexers in cross-indexing your article. Use terms from the medical subject headings list from Index Medicus whenever possible.

Introduction:
Clearly state the purpose of the article. Summarise the rationale for the study or observation. Give only strictly pertinent references, and do not review the subject extensively.

Materials and Methods:
Describe your selection of the observational or experimental subjects (patients or experimental animals, including controls) clearly, identify the methods, apparatus (manufacturer's name and address in parenthesis), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations.
Identify precisely all drugs and chemicals used, including generic name (s), dosage (s), and route (s) of administration. Do not use patients' names, initials or hospital numbers. Include numbers of observation and the statistical significance of the findings when appropriate. When appropriate, particularly in the case of clinical trails, state clearly that the experimental design has received the approval of the relevant ethical committee.

Results:
Present your results in logical sequence in the text, tables and illustrations. Do not repeat in the text all the data in the tables or illustrations, or both : emphasize or summarise only
important observations.

Discussion:
Emphasise the new and important aspects of the study and conclusions that follow from them. Do not repeat in detail data given in the Results section. Include in the Discussion the implications of the findings and their limitations and relate the observations to other relevant studies.

Conclusion:
Link the conclusions with the goals of the study but avoid unqualified statements and conclusions not completely supported

by your data. Avoid claiming priority and alluding to work that has not been completed. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

Acknowledgements:
Acknowledge grants awarded in aid of the study (state the number of the grant, name and location of the institution or organisation) as well as persons who have contributed significantly to the study. Authors are responsible for obtaining written permission from everyone acknowledged by name as readers may infer their endorsement of the data.

References:
Number references consecutively in the order in which they are first mentioned in the text. Identify references in text, tables and legends by Arabic numerals (in parentheses). References cited only in table or legends to figures should be numbered in accordance with a sequence established by the first identification in the text of the particular table or illustation.

Use the form of references adopted by the US National Library of Medicine and used in the Index Medicus. Use the style of the examples cited at the end of this section, which have been approved by the National Library of Medicine. The titles of journals should be abbreviated according to the style used in ***Index Medicus***.
Try to avoid using abstracts as references; "unpublished observations" and "personal communications" may not be used as references, although references to written, not verbal, communication may be inserted (in parenthesis) in the text. Include among the references manuscripts accepted but not yet published; designate the journal followed by "in press" (in parenthesis). Information from manuscripts submitted but not yet accepted should be cited in the text as "unpublished observations" (in parenthesis). The references must be verified by the author (s) against the original documents. List all authors when six or less; when seven or more list only first three and add et al. Examples of correct forms of references are given below :

Journals
1. Standard Journal Article
Soter NA, Wasserman SI, Austen KF et al. Cold urticaria : release into the circulation of histamine and eosinophil chematoxic factor of anaphylaxis during cold challenge. New Engl J Med 1976; 294: 687-90.

2. Corporate Author
The Committee on Enzymes of the Scandinavian Society of Clinical Chemistry and Clinical Physiology. Recommended method for the determination of gamma- glutamyltransferase in blood. Scand J Clin Lab Invest 1976; 36: 119-125.

Books and Other Monographs
3. Personal Author (s)
Osler AG Complement : mechanisms and functions. Englewood Cliffs : Prentice-Hall, 1976.

4. Corporate Author
American Medical Association Department of Drugs. AMA drug evaluation (3rd ed). Littleton : Publishing Sciences Group, 1977.

5. Editor, Compiler, Chairman as Author
Rhodes AJ Van Rooyen C E, (comps). Textbook of virology : For students and practitioners of medicine and the other health sciences (5th ed). Baltimore : Williams & Wilkins, 1968.

6. Chapter in Book
Weinstein L, Swartz MN. Pathogenic, properties of invading micro-organisms. In: Sodeman WA Jr. Sodeman WA (eds). Pathologic physiology : mechanisms of disease. Philadelphia : WB Saunders, 1974; 457-72.

7. Agency Publication
National Centre for Health Statistics. Acute conditions : incidence and associated disability, United States, July 1968 - June 1969. Rockville, Me : National Centre for Health Statistics, 1972. (Vital and health statistics). Series 10 : data from the National Health Survey, No 69). (DHEW publication No. (HSM) 72 - 1036).

Other Articles
8. Newspaper Article
Shaffer R A. Advances in chemistry are starting to unlock mysteries of the brain: discoveries could help cure alcoholism and insomnia, explain mental illness. However, the messengers work. Wall Street Journal 1977; Aug 12: 1 (col 1), 10 (col 1).

9. Magazine Article
Roucehe B. Annals of medicine : the Santa Claus culture. The New Yorker 1971; Sep 4: 66-81.

Tables and Illustrations:
Roman numerals should be used for numbering tables. Arabic numerals should be used when numbering illustrations and diagrams. Illustrations and tables should be kept to a minimum. All tables, illustrations and diagrams should be fully labelled so that each is comprehensive without reference to the text. All measurements should be reported using the metric system. Each table should be typed on a separate sheet of paper in double spaced and numbered consecutively. Omit internal horizontal and vertical rules. The contents of all tables should be carefully checked to ensure that all totals and subtotals tally.

All illustrations and diagrams should be in Indian ink on separate sheets of thick, smooth, while paper of Bristol board or in the form of photographs printed on glossy paper and should be 12.7cm x 17.3cm but not larger than 20.3cm x 25.4cm. They should bear, on the reverse side, the author's name, short title of the paper, the figure number and an arrow indicating the top of each illustration.

All illustrations and diagrams should be referred to as "Figure" and numbered consecutively. Their approximate position in the text should be indicated. Legends and captions should be typed on separate sheets and numbered correspondingly. Whenever possible, please include all data used for construction of graphs in order to ensure clarity or reproduction.

Colour reproduction:
Illustrations and diagrams are normally reproduced in block and white only. Colour reproductions can be included if so required and upon request. However, a nominal charge must be paid by the authors for this additional service; the charges too be determined as and when on a per article basis.

Colour illustration and diagrams should be supplied in the form of colour positive photographic prints or slides. All other specifications should be as for normal illustrations and diagrams, as noted above.

Abbreviations :
Use only standard abbreviations. The full term for which an abbreviation stands should precede its first use in the text, unless it is a standard unit of measurement.

Reprints :
25 copies of the article will be supplied free of charge to the leading author. Request for additional reprints should be made to the MMA Secretariat. A nominal charge will be levied for each additional reprint.

CONTENTS

BREAKFAST SESSION

YOUNG INVESTIGATOR'S AWARDS

POSTERS

empty page

Battling the Bulge in Asia – Implications for Gastroenterologists

G C Farrell

Professor of Hepatic Medicine, Australian National University, and Department of Gastroenterology and Hepatology, The Canberra Hospital, ACT 2605, Australia

BACKGROUND

Obesity now ranks with cigarette smoking, alcohol, *H. pylori* and NSAIDs as a causative agent for GI and liver disorders. In most cases, overweight or obesity contributes to the frequency (relative risk) and severity of conditions, rather than being the sole etiology. Examples are gastro-esophageal reflux disease (GERD), colorectal (and most other GI) cancer (CRC), endoscopy complication rates, gallstones, hepatitis C and hepatocellular carcinoma (HCC). Rates of obesity are increasing in most areas, including south-east and south Asia, and this is reflected by corresponding increases in Type 2 diabetes (T2D), hypertension, dyslipidemia and non-alcoholic fatty liver disease (NAFLD).

Thus, 15-30% of Chinese, Japanese and Korean urban populations have steatosis, which, like T2D and metabolic syndrome, is almost invariably associated with central obesity (the waistline BULGE) and insulin resistance. Data on ethnic populations in Malaysia, Singapore and elsewhere (including the USA) indicate rates are higher for some population groups, particularly Malays, Indians, Chinese. While the obesity epidemic may be peaking in adults in North America and Australia (but still increasing in children), current trends indicate increases in Asia, with an increasing burden of obesity-related GI and liver disease. Increases in colorectal cancer and GERD are obvious manifestations of this. Understanding NAFLD/NASH and what to do about it may give insights into other obesity-related disorders. There is increasing evidence for operation of genetic factors; one recent kindred study in children estimated 100% hereditability of NAFLD, much more than might be expected when the environment for over-nutrition is critical. Work on obesity genes indicates they particularly operate at central appetite regulation, causing over-eating and food choices in favour of energy-dense foods. However, predicating disordered bodily lipid partitioning; for example, polymorphisms of PPARgamma may be important in Asians. How this leads to steatosis and insulin resistance, as well as recruitment of inflammatory responses to the liver and systemically, are critical unanswered questions.

Likewise, how insulin resistance/inflammation promote carcinogenesis in many tissues, as well as fibrotic progression in NASH and hepatitis C, requires further study. Finally, gastroenterologists are often referred patients with steatosis on ultrasonography and/or minor nonspecific liver test abnormalities. Such patients nearly always central obesity and one or more metabolic test abnormalities. They are at high risk of developing T2D or may have subclinical diabetes on OGTT, and have considerably increased risks of cardiovascular disease as well as cancer. It therefore behoves us to regard obesity, and particularly central obesity with NAFLD as a clarion call to an at-risk patient. Attention to the reversible at a time patients are motivated to make the requisite lifestyle adjustments may be the most effective way to prevent or ameliorate the many health detriments of obesity.

Natural History of Gastroesophageal Reflux Disease- What Can We Expect in Asia?

F Pace

Division of Gastroenterology, Department of Clinical Sciences "L: Sacco", University of Milan, Milan, Italy

BACKGROUND

The natural history of gastroesophageal reflux disease (GERD) has only partially been elucidated.

A true "natural history" of the disease should describe its course in the absence of any treatment, be it medical or surgical, and this is of course unethical. On the other hand, the greatest part of contemporary randomized controlled clinical trials on GERD lack the placebo arm, which could be considered as a surrogate of the natural history of the disease, since it has become clear that both proton pump inhibitors (PPIs) and H-2 receptor antagonists (H2-RA) are significantly superior to placebo, both for acute and maintenance therapy. Thus, the available data either refer to old studies conducted with placebo control or are in fact studies on a "natural" history modified by the antisecretory therapy. This is not only true for Western patients but also for Asia patients.

Trying to summarize what the literature on GERD natural history tells us, we can state that:

1) GERD present in the paediatric age is highly predictive of GERD in the adult age;
2) in the adult population, Non erosive reflux disease (NERD) may progress toward erosive disease in a percentage which can be roughly estimated around 10% per year;
3) erosive esophagitis may progress in a very limited percentage to more severe complications, such as Barrett's esophagus and even less frequently to adenocarcinoma;
4) overall, GERD might be considered as a chronic relapsing disease requiring persistent treatment;
5) it is very likely that both the progression from infanthood to adulthood and from non-erosive to erosive GERD might be effectively prevented or reduced by use of PPI therapy.

As far as the peculiar fate of Asian GERD patients is concerned, the scenario is probably not much different from the above picture. In fact, the temporal trends of GERD in Asia seem to be similar in the direction (e.g, significant increase in prevalence) to what is observed in Europe and North-America, possibly as a consequence of the dietary changes which are rapidly taking place in many Asian countries, reflected by an increase in obesity/overweight.

Lower GI Bleeding – Current Epidemiology and Management

K M Fock

Clinical Professor / Senior Consultant, Changi General Hospital, Singapore

BACKGROUND

Lower GI Bleeding (LGIB) is defined as blood loss originating from a source distal to the ligament of Treitz resulting in hemodynamic instability.

LGIB accounts for 20-33% of bleeding GIT. Although less common than UGIB, it has been suggested that LGIB is under reported because a higher proportion of patients with LGIB do not seek medical treatment. LGIB is distinct from UGIB in epidemiology, management and prognosis.

The annual incidence rate of LGIB is between 20.5 to 27 cases per 100,000 adult population (0.03%). In contrast, incidence of UGIB is estimated to be between 100-200 cases per 100,000 (0.2%). Mean age at presentation ranges from 63-77 years.

The mortality rate is reported to be 2 – 4% and is higher with increasing age (> 70). As in upper GI bleeding, lower GI bleeding stops spontaneously in most cases (80 – 85%). Diverticulosis is the most frequently encountered lesion (30 – 40%) followed by colo-rectal cancer (10%), angiodysplasia (3 – 10%) and colitis caused by infection, ischaemia or inflammatory bowel disease.

Haematochezia is the main symptom although malaena or symptoms of anaemia may be the presenting feature. Endoscopy undertaken after adequate resuscitation and with full bowel preparation should be performed within 12 - 48 hours of the bleeding. Therapeutic endoscopy using APC, haemoclips and injection adrenaline has significantly reduced the need for surgical intervention. Ischaemic colitis caused by occlusive mesenteric infarction has a mortality rate of 90% will be discussed in greater detail.

Liver Transplantation - Indications and Treatment Success - Particular Problems in Asia

M L Chung

Department of Surgery, University of Hong Kong Medical Centre, Queen Mary Hospital, Hong Kong

BACKGROUND

In Asia, the high incidence of hepatitis B virus (HBV) infection with associated hepatocellular carcinoma (HCC) and the lack of organ donors have created a distinctive pattern of indication and strategy in the application of liver transplantation. Living donor liver transplantation (LDLT) provides an alternative source of organs and naturally has the strongest appeal. The first pediatric LDLT in Asia was performed in Japan in 1989, and since then, transplant centers in Japan, Hong Kong, Taiwan and Korea have repeatedly advanced the frontier of LDLT, particularly in its application in adult recipients, with innovative techniques using left lobe graft, right lobe graft with or without middle hepatic vein, left lobe with caudate lobe graft, right lateral section graft and dual grafts. Over the last decade, the number of liver transplants in Asia has increased rapidly by 10-fold largely as a result of the development of LDLT. Apart from mainland China, LDLT accounts for 90% of all liver transplants performed in Asia compared with <5% in the United States.

HBV related liver disease is the most common indication for transplantation and a rapid evolution in the strategies of postoperative prophylaxis leads to the combined use low dose intramuscular hepatitis B immunoglobulin (HBIG) and anti-viral agents such as lamivudine as the preferred strategy to minimize the risk of recurrence. Nonetheless, the incremental cost-effectiveness ratio of combination of lamivudine with HBIG is questionable, particularly for developing countries in Asia and newer anti-viral agent such as adefovir, entecavir or telbivudine either alone or in combination may be the more cost-effective option. The ultimate objective is to avoid the need for life-long prophylaxis by restoring the immunity against HBV. The proportion of patients who undergo liver transplantation for HCC is also increasing and HCC comprises one third of the indication for liver transplantation in Asia.

Many transplant programs accept patients with HCC beyond the Milan criteria and the reported 3-year survival rate is about 60%. Although LDLT would inevitably continue to play a crucial role for patients with liver disease in Asia, the potential of promoting organ donation from brain-dead donors should continue to be explored. In countries where the technique/technology is not optimal or the use of deceased organ donors has not been maximized, temptation to initiate LDLT should be resisted.

Overall Treatment Approaches for the Management of the Difficult Biliary Stone Diseases

J Razman

Department of Surgery, Faculty of Medicine, Universiti Kebangsaan Malaysia Medical Center, Cheras, Kuala Lumpur, Malaysia

BACKGROUND

Biliary stone diseases still remain as one of the commonest cause of jaundice. The aggressiveness of the management would still depend on the clinical presentation. The patient presents with ascending cholangitis and other underlying premorbid illness requires earlier intervention.

Transabdominal ultrasound is still the commonest imaging investigation. Although the detection rate is only about 60%, it is non invasive and easily available. Computer tomography, MRCP, ERCP and endoscopic ultrasound have becoming the investigations of choice in the management of the difficult diseases. It provides a better visualization of the diseases and hence allows more definitive management. However each of the modalities have their of own validity, reliability and risks.

Once the diagnosis has been established, the approaches of the drainage and removal of the stones need to be considered. Over the years, ERCP seem to be the treatment of choice as compared to surgical intervention. Besides providing the gold standard in the diagnosis, the procedure also allow for therapeutic intervention such as drainage procedure or even removal of the biliary stones. However ERCP do have its own risks and complications. The type of drainage and the timing of stones extraction also remain controversial during ERCP. This is particularly significant when there is presence of severe cholangitis, this paper will also focus on other modalities of managing biliary stones

Usually biliary stone diseases are associated with gallstones. The surgical treatment as the first choice of treatment has always been a controversial issue. If the treatment involve multidisciplinary approaches, the choice of adequate treatment strategy should be tailored that better fits for individual patients. In recalcitrant biliary stones, surgical intervention should be considered after failing several attempts of ERCP.

In conclusion the treatment strategies for the management of biliary stones disease should be based on the availability of the facilities and require careful clinical judgement in order to produce an optimum outcome.

Endoscopic Management of Benign Biliary Stricture

R Rerknimitr

Division of Gastroenterology, Chulalongkorn University, Bangkok, Thailand

BACKGROUND

Choledocho-duodenostomy, choledocho-jejunostomy and hepatico-jejunostomy are the mainstay of traditional treatment for benign biliary strictures. With an equivalent outcome and lower morbidity rate, over the last decade, endoscopic approach has replaced surgical treatment. Techniques that involved in the therapy include stricture dilation and plastic stent upsizing. Although, the etiology of strictures is diverse, post biliary surgeries including cholecystectomy and liver transplantation are among the most common causes.

The success rates of endotherapy for these conditions are reported as excellent except for the ischemic type of post OLT stricture. In contrast, biliary stricture secondary to chronic pancreatitis has been found to be associated with a poorer outcome and significant number of patients required biliary bypass surgery as a salvage therapy. Strictures due to radiation, vaculitis, HIV and trauma can also be resolved by endothrapy with a high percentage. In addition, the new entity autoimmune pancreatitis which mimicking pancreatic head cancer has been reported to respond to plastic stent insertion. However, the standard treatment for this condition is still an administration of steroid and immunosuppressive agents.

Another important consideration to determine the success rate of endotherapy is Bismuth level of the strictures, patients with early grade stricture (Bismuth I and II) usually respond well to therapy whereas advanced strictures (Bismuth III and IV) have more resistant to endotherapy and aggressive strategy is usually required.

For many years, self expandable metal stent (SEMS) was projected as a taboo for the treatment of benign biliary stricture due to the development of epithelial hyperplasia that precluded the subsequent stent removal. With the new advancement in stent design, a covered SEMS can overcome this problem. Its advantage is larger stent diameter that can lessen the number of endoscopy session. Currently, more reports on the usefulness of this stent are available. However, the cost of the stent is still the most concern; therefore studies for cost effectiveness for this strategy are awaited.

Intrahepatic Stones (IHS)

K S Manisekar

Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia

BACKGROUND

Intrahepatic stones (IHS) have been described as early as the 16th century; however, the first detailed description of the disease in English literature was not until 1906. Various terminology were used like oriental cholangiohepatitis, hepatolithiasis, intrahepatic stones etc. but the most current terminology is Recurrent Pyogenic Cholangitis which describes the pathophysiology of this disease.

IHS is more prevalent in Eastern Asia, with the highest incidence being in Taiwan, followed by China,Hong Kong, Korea, Malaysia and Japan.

Etiology is not certain but various hypothesis been made:-

a) diet of the Orient, predominantly high in carbohydrate and low in fat and protein;
b) low-protein diet is also responsible for a decreased level of glucaro-1.4-lactone, a ®-glucuronidase inhibitor;
c) Malnutrition associated with low socio-economic levels reduces immune ability, making subjects more prone to bacterial infections;
d) biliary infestation by Clonorchis sinensis or Ascaris lumbricoides;
e) long-term octreotide therapy;
f) ethanol injections as treatment for hepatocellular carcinoma;

Intrahepatic stones could be in either or both lobes of the liver, associated with stones in the extrahepatic biliary tree. More common in the left intrahepatic duct. Abdominal pain and cholangitis are common presentation. Charcoat triad found in two third of patients.

Long-term biliary stasis with infection can lead to biliary strictures or liver abscess. Repeated cholangitic attacks can lead to atrophy of the affected lobe, secondary biliary cirrhosis, portal hypertension, and liver failure as well as occurrence of cholangiocarcinoma.

Diagnosis is ultimately based on radiologic modalities, including ultrasonography, cholangiography (usually endoscopic, sometimes percutaneous), CT scan and MRI (MRCP).

The management of IHS is dependent on the location of the stones, extent of involvement of the liver and presence of associated complications.

a) Non-surgical means such as ERCP or percutaneous transhepatic stone removal with lithotripsy by mechanical, electrohydraulic or holmium laser;
b) The surgical means include liver resection of the affected lobe, liver resection with hepaticojejunostomy and access loop creation and liver transplantation.

Screening for Hepatocellular Carcinoma (HCC)

S G Lim

Department of Gastroenterology and Hepatology, National University Health System, Singapore

BACKGROUND

HCC is the 5th most common tumour in men worldwide and one of the most important causes of mortality in patients with liver disease. In Asia, most HCC is caused by hepatitis B and C. HCC is potentially curable when discovered early, but when advanced the prognosis is poor, consequently there is a strong compelling argument to detect early HCC. This is usually achieved by identifying those at risk such as those with chronic hepatitis B or C and/or with liver cirrhosis.

Unfortunately, these are asymptomatic conditions and a large proportion of patients are unaware they are at risk. Similarly, early HCC is asymptomatic and can only be detected by screening. By definition, screening is the one-time application of a test for detecting a disease at an early stage, while surveillance is the repeated application of the test over time order to increase the number of effective interventions. Both are considered effective if they are able to reduce the disease specific mortality. For patients with known risk the best surveillance is ultrasound and alpha-fetoprotein at 6 monthly intervals.

A number of systematic reviews have addressed this problem but the most compelling evidence comes from a randomized control trial conducted in Shanghai, China in patients with hepatitis B. The use of AFP and ultrasound testing every 6 months was associated with a 37% reduction in mortality over 5 years compared with no screening, even though adherence to the screening regimen was only 58%. Practice using the best evidence however is curtailed by the cost effectiveness of such a strategy but as this varies according to health care costs in each country, should be adjusted accordingly. In conclusion, surveillance for HCC should be performed for those at risk, but practice must balance evidence and costs to achieve the optimal result.

Hepatocellular Carcinoma: Transplant or Resection

M L Chung

Department of Surgery, The University of Hong Kong, Queen Mary Hospital, Hong Kong, China

BACKGROUND

Liver transplantation is the best treatment for early hepatocellular carcinoma (HCC) in patients with decompensated cirrhosis of Child B and C grade. For patients with normal liver or Child A cirrhosis who can tolerate liver resection, the choice of primary transplant versus resection followed by salvage transplant only for recurrence or hepatic decompensation is debatable.

The survival rate of liver resection for early transplantable HCC is comparable to that of transplantation but the recurrence-free survival was lower because of the high incidence of intrahepatic recurrence due to intrahepatic metastases or metachronous hepatocarcinogenesis in the cirrhotic liver remnant. Hence, primary transplantation may have an advantage. Nonetheless, salvage transplantation is feasible in many of these patients as the intrahepatic recurrences frequently remain transplantable. Whether the outcome of salvage transplant is comparable to that of primary transplant remains controversial with two French groups reporting contradicting results in both operative mortality and risk of recurrence. Experiences in Asia on salvage transplant using living donor liver graft were also conflicting.

Although there is yet doubt as to the claim that salvage transplant can be done with similar outcome to primary transplant, the issue of organ shortage favors the adoption of primary resection followed by salvage transplant as the preferred strategy from an intention-to-treat perspective in most centers because primary transplant is not immediately available, is associated with drop-outs, and will intensify the pressure on the waiting list. This is particularly true in Asia where the incidence of HCC is high and organ donation rate is low.

Liver transplantation is largely reserved as a last resort when curative resection or even ablation is not feasible or have failed. Since most liver transplants for HCC are from living donors, it may arguably be unethical to risk a healthy donor when there is an alterative option of resection with comparable long-term survival.

Risk Stratification for Gastric Cancer

K G Yeoh

Senior Consultant Gastroenterologist, National University of Singapore, Singapore

BACKGROUND

Screening is the only way of diagnosing gastric cancer at an early stage. However, it is costly and resource-intensive. We have shown that screening of high-risk groups is cost-effective (Clin Gastroenterol Hepatol 2006). Demographically in the Singapore population, Chinese males age >50 years have twice the average population risk for gastric cancer.

What are the risk factors for gastric cancer and can these be used for risk stratification? The Gastric Cancer Epidemiology Programme (GCEP), a pilot clinical trial screening subjects for gastric cancer was initiated in January 2004. The GCEP Cohort Study enrolls people aged >50 years who are at high risk of gastric cancer and offers screening by endoscopy with systematic prospective follow up over a minimum of 5 years. Gastric neoplasia was categorized into high grade dysplasia, carcinoma-in-situ, and invasive cancer. Since 2004, 2200 subjects have been prospectively recruited. We analysed the initial results from the first 1000 subjects. Ten cases of early gastric cancer have been prospectively detected during surveillance and the incidence rate for development of de novo cancer is approximately 0.5% a year (one in 200 patient-years). From hazard-ratio analysis, intestinal metaplasia and gastric atrophy were significant risk factors for the development of early gastric cancer, despite the small number of events.

Combining evidence from epidemiologic studies showing that age, male gender and *H pylori* are well-known risk factors with the current data from our ongoing clinical trial, there is strong evidence that age, male gender, *H pylori*, intestinal metaplasia, and atrophic gastritis are significant risk factors for gastric cancer and can be used as a basis for risk stratification.

New Surgical Approaches to Gastric Cancer

G Ramesh

Department of Surgery, Hospital Tuanku Jaafar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

Staging for gastric cancer is of utmost importance in providing the best form of treatment. Staging is usually performed with CT and at times with an Endoscopic Ultrasound. Of late Laparoscopic Staging has shown to be play an important adjunct in staging gastric cancers.

Laparoscopic staging is more sensitive in detecting M1 disease than CT and has shifted the management of gastric cancer.

Gold standard for Early Gastric Cancer (EGC) has been surgical resection in the form of D2 gastrectomy. This has high cure rates but is associated with morbidity and mortality. Approaches now has shifted towards endoscopic resection of EGC- which include EMR and ESD.

Other novel surgical techniques for early EGC include Laparoscopic gastrectomy and Pylorus preserving gastrectomy. Standard surgical approach for locally advanced gastric cancers is D2 gastrectomy.

Systemic Therapy in Gastric Cancer

Daniel W Y Wong

University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Gastric cancer remains a clinical challenge with firstly, a majority of patients presenting with inoperable or metastatic disease and secondly, the high rate of systemic recurrence despite optimal loco-regional treatment. Various chemotherapeutic drugs have been studied over the last two decades in an effort to improve the outcome, but results have been less than satisfactory.

In resectable tumours, clearly micro-metastatic disease needs to managed effectively to maximise cure rates. Post-operative chemoradiotherapy, perioperative chemotherapy and adjuvant chemotherapy with fluoropyrimidine-based drugs are currently accepted as standards of care with modest improvement in local control and overall survival. In advanced tumours, similar combinations of drugs are used as first line treatment. There is no level 1 evidence for second line treatment although taxane-based chemotherapy is often used. The best management for such patients would be participation in a well designed clinical trial.

More recently, with the advances in molecular biology, targets in cancer cells and surrounding vasculature involved in growth signalling pathways and angiogenesis have been identified. This has led to the development of humanised monoclonal antibodies such as bevacizumab (targeting vascular endothelial growth factor), cetuximab (targeting epidermal growth factor receptor) and trastuzumab (targeting c-erb2). There has also been promising data on tyrosine kinase inhibitors such lapatinib (targeting epidermal factor growth receptor). There are several on-going trials to determine the role of these new biological agents.

Emerging molecular profiling techniques with prognostic and predictive ability have the potential of optimising patient and drug selection, leading to 'personalised' systemic therapy in the future.

Dyspepsia and *Helicobacter Pylori*

H J Tan

Sunway Medical Centre, Petaling Jaya, Selangor, Malaysia

BACKGROUND

Dyspepsia affects 25 – 40% of the western population. Common causes of dyspepsia are peptic ulcer disease, gastroesophageal reflux disease, functional dyspepsia and gastric cancer. Dyspepsia may be caused by NSAIDs, smoking, alcohol and *Helicobacter pylori* infection. *Helicobacter pylori* infection has been implicated in peptic ulcer disease, gastric cancer and MALT lymphoma. However, its relationship with GERD and cardia cancer is controversial and there were some evidence of inverse relationship.

The evidence to eradicate *Helicobacter pylori* in peptic ulcer disease is very strong. *Helicobacter pylori* eradication is also clearly indicated in patients with family history of stomach cancer. It is also useful to eradicate *Helicobacter pylori* in patients at risk of peptic ulcer disease and about to start NSAIDs. Although there were reports of worsening of GERD in the past, *Helicobacter pylori* eradication is recommended in all the consensus guidelines in patients with GERD before starting long term proton pump inhibitors.

Although many studies in the past had failed to demonstrate the benefit of *Helicobacter pylori* eradication in functional dyspepsia, meta-analysis has shown clear benefit with the number required to treat at 15. It has also been shown that eradicating *Helicobacter pylori* infection can prevent subsequent development of peptic ulcer disease. It may even prevent the development of dyspepsia in healthy asymptomatic subjects.

Helicobacter Pylori "Test and Treat" Strategy for the Initial Management of Dyspepsia

M Sanjiv

Department of Medicine, University Malaya Medical Centre, Kuala Lumpur, Malaysia

BACKGROUND

The initial management of patients with dyspepsia has important implications for both patients and health service provider. As the natural history of dyspepsia is that of a chronic, relapsing nature, the initial management strategy has been shown to have an impact on future health-resource utilization. In the era of H*elicobacter pylori* and its' recognized associations with dyspepsia, the patients' *H pylori* status is assessed initially using a non-invasive test (usually either serology or urea breath test) and eradication therapy offered to those who test positive for *H pylori*, whlist empiric treatment will then be given to those who do not have the infection. This approach has the potential to eradicate any underlying peptic ulcer disease not associated with non-steroidal anti-inflammatory drugs (NSAIDs), and resolve symptoms in some patients with functional dyspepsia. Proponents of this approach have advocated this *H pylori* "test and treat" strategy in all patients with uncomplicated dyspepsia and not on regular NSAIDs.

Several RCT studies from Western populations and a recent meta-analysis have demonstrated that the *H pylori* "test and treat" strategy is as safe, and more cost-effective than prompt endoscopy as the initial management tool in patients with uncomplicated dyspepsia.

However, there is serious concern that such a strategy may not be appropriate in Asians due to the increased prevalence of gastro-esophageal malignancy, particularly in East Asia. A single RCT study from South East Asia recently demonstrated the cost-effectiveness and safety of the "test and treat" strategy in young patients with dyspepsia, albeit with lower patient acceptance. Bearing the limited health resources of the Asia-Pacific region in mind, there appears to be a definite role for the *H. pylori* "test and treat" strategy as an initial management strategy in selected patients with dyspepsia.

Perspectives from Asia Pacific Consensus for *Helicobacter Pylori* Infection

K M Fock

Clinical Professor / Senior Consultant, Changi General Hospital, Singapore

BACKGROUND

The Asia Pacific Consensus Conference was convened to review and synthesize the most current information on *H. pylori* management and update the previously published guidelines. The group recognized that apart from classic indications such as peptic ulcer disease, *H. pylori* eradication was indicated for *H. pylori* positive patients with functional dyspepsia, in patients receiving long term maintenance PPI for gastroesophageal reflux disease, and in patients with unexplained iron deficiency anaemia or idiopathic thrombocytopenic purpura.

Test and treat for *H. pylori* infection in communities with high incidence of gastric cancer was felt to be an effective strategy for gastric cancer prevention. It was recommended that before starting long term aspirin or NSAID therapy for patients at high risk for ulcers and ulcer-related complications, *H. pylori* infection should be tested and eradicated. In Asia, the currently recommended first line therapy for *H. pylori* infection was PPI, clarithromycin and amoxicillin for seven days, while bismuth based quadruple therapy was an effective alternative. There was an increasing rate of resistance to clarithromycin and metronidazole in parts of Asia, leading to reduced efficacy of PPI based triple therapy.

There were insufficient data to recommend sequential therapy as an alternative first line therapy in Asia. Salvage therapy included: 1) standard triple therapy that had not been previously used; 2) bismuth based quadruple therapy; 3) levofloxacin based triple therapy; 4) rifabutin based triple therapy. Both CYP2C19 polymorphisms and smoking may affect *H pylor*i eradication rates.

Why Do We Screen for Colorectal Cancer?

A C Roslani

Department of Surgery, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

The principles of screening, as elucidated by Wilson and Jungner in 1968, are rarely fulfilled in their entirety even by existing screening programmes. As a target for screening, however, colorectal cancer meets many of the criteria. It is a leading cause of cancer deaths worldwide, with a detectable asymptomatic phase, and screening modalities which reduce cancer mortality.

Furthermore, increasing understanding of the genetics of colorectal cancer has allowed focused screening for hereditary forms and other high-risk groups, and subsequent close surveillance of those with identifiable mutations. Ultimately, in the future it may be possible to prevent the vast majority of colorectal cancers, thereby reducing the burden to healthcare costs associated with them.

Screening for Colorectal Cancer - Implementation

K G Yeoh

Senior Consultant Gastroenterologist, National University of Singapore, Singapore

BACKGROUND

Colorectal cancer is the commonest cancer in Singapore. The average population risk for developing colorectal cancer in Singapore is among the highest in the world. The age-standardised rates (ASR) for men for the period 2002-2006 was 40.2 per 100,000 per year and for women it was 28.8 per 100,000 per year. Screening is warranted from the high incidence rates and there is level one evidence that it improves survival.

On a population basis, the screening test of choice is the modern faecal immunochemical test (FIT) which has superior performance characteristics to the traditional faecal occult blood test. FIT is specific for human hemoglobin and does not require dietary restriction or preparation. It should be performed on two separate stool specimens. On an individual level, the selection of a screening test should be the result of informed choice based on personal preference. Some individuals may prefer colonoscopy which offers the advantage of prevention of cancer by removal of adenomatous polyps, as opposed to faecal tests which primarily detect cancers.

The preparation of a national population screening programme for colorectal cancer will be discussed. This requires infrastructural, logistic and workflow studies and preparation. The capacity for colonoscopy and follow-up of positive stool tests has to be evaluated. A pilot phase of colorectal screening will be conducted in the second half of 2009 and the nation-wide programme launched in 2010.

Colorectal Cancer Screening: Barrier to Screening

Joseph J Y Sung

Professor of Medicine, Head, Shaw College, Associate Dean (General Affairs), Chairman, Department of Medicine & Therapeutics Director, Institute of Digestive Disease, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, China

BACKGROUND

Colorectal cancer is rapidly rising in Asia. The Asia Pacific Working Group has recently published a series of Consensus recommendation on screening (Sung et al. Gut 2009; for colorectal cancer but the population perception and compliance is limited. In most Asian countries, public knowledge is poor and the update of screening test is expected to be low. A population-based telephone survey has been conducted in Hong Kong resident between the age of 30 and 65 years based on the health-belief model. In the mulitple logistic regression analysis, knowledge factors that were positvely associated with the CRC testing include knowledge of CRC symptoms and risk factors. Perceived severity of CRC, perceived health and psychological barriers to CRC testing, physician recommendation and having a health insurance are the major determining whether of uptake of CRC screening. Among these factors, physician recommendation is the most important factor. Future promotion of CRC screening should be targeted on public education and physicians education.

Writing and Publishing Medical Articles

G C Farrell

Editor-in-Chief, Journal of Gastroenterology and Hepatology; Professor of Hepatic Medicine, Australian National University Medical School, The Canberra Hospital, Australia

BACKGROUND

Like any communication, from a current affairs newspiece to a novel, the first requisite of a medical article is to have a story to tell. That "story" depends on the type of article (editorial, original paper, review, case report, letter) in terms of the breadth and depth to be covered. What an editor is looking for is precisely what a discerning reader might ask: what have I learned from this paper or review, how will it influence my own clinical practice and research, and was it easy to read (well written), clearly illustrated and stimulating, even enjoyable! In addition to these attributes, editors consider what will interest and be useful for its readership, how novel the work is – does it contain real advances in knowledge or understanding that transcend local description of disease patterns, or have recent articles of a very similar nature been published recently? The editor will also check carefully all ethical issues of experimentation (animal and human) and publication, attempting to prevent dual publication (self-plagiarism) or more serious forms of misconduct.

In considering whether your work is worth publishing, you should be able to articulate its aims very clearly, as well as the principle finding(s). The ultimate, and most important encapsulation of this is the title of the article – that most read line! Readers will continue (or not) depending on the interest created by the title, so it needs a lot of thought and drafting, ideally seeking the view of colleagues and peers. Next comes the abstract, laid out like a meeting abstract and comprising a bare-bones outline of the article, the only part that will be ready by the vast majority of readers – so get your message across clearly. Ideally, even so-called clinical series should be approached as scientifically as possible - the best work will have been planned prospectively, with careful case and "readout" definitions made before data collection, and group sizes chosen after appropriate power calculations. For lab-based research, manipulation of cell lines or experiments in rodents without due consideration of species differences may be of limited value for medical journals such as JGH: a more integrated approach to experimentation, or at least careful consideration of the context and generalisability of results is a minimum requirement.

For novice writers, a carefully chosen review topic or editorial, written under apprenticeship with an experienced medical author is a great way to start. Consider topics, consider evidence-based reviews such as meta-analyses and systematic reviews, then ask the opinion of colleagues and the journal editor before embarking on what may be a challenging journey the first time around. There are quite a few technical aspects to writing a medical article, and some of these will be discussed in this session. In general, however, information on such aspects as scope of journals, word limits, style/number of references, tables and figures and their legends are easy to find on journal websites and by perusal of similar articles in the same journal. Finally, like all creative works, publishing a medical article gives one an enormous degree of satisfaction that can endure long after the pains of bringing the idea to fruition have passed. Those interested are encouraged to not be daunted!

Signal Transduction Pathways and Targeted Therapies in Hepatocellular Carcinoma

P R Galle

First Department Internal Medicine, Chief Klinikum der Johannes Gutenberg - Universitat, Mainz, Germany

BACKGROUND

The molecular processes that drive the transformation of normal hepatocytes into malignant cells, such as those occurring during the development of hepatocellular carcinoma (HCC), are complex. Two early pathogenetic steps have been identified. Firstly, in most cases, liver cirrhosis presents with a precancerous lesion following viral hepatitis infection, excessive alcohol consumption or exposure to environmental toxins. Secondly, mutations occurring in one or more genes accumulate, either in the context of chronic inflammation or as the result of direct DNA damage. This results in aberrations in several cellular signalling pathways that are important for tumour angiogenesis and the survival and proliferation of tumour cells.

Stimulation of receptor tyrosine kinases, including epidermal growth factor receptor (EGFR), vascular endothelial growth factor receptor (VEGFR) and platelet derived growth factor receptor (PDGFR), results in activation of the Raf/MEK/ERK signalling pathway, which is involved in regulating cell proliferation, differentiation, survival and angiogenesis. This pathway is often constitutively overactivated in HCC, with phosphorylated Raf kinase and activated ERK observed in >90% of HCC tumours. Constitutive Raf activation may result from aberrant overexpression of growth factors and their receptors, oncogenic mutations in upstream Ras, or direct activation of signalling intermediates by hepatitis C core proteins. The phosphoinositol-3 kinase (PI3K)/Akt/mammalian target of rapamycin (mTOR) signalling pathway plays an important role in regulating cell survival and cell cycle progression. Overexpression of mTOR has been reported in approximately 15% of HCCs and overactivation of the PI3K/AKT/mTOR pathway can lead to tumour hyper-proliferation.

More than half of HCC tumours express increased levels of β-catenin, a key intracellular effector in the Wnt/β-catenin signalling pathway. Accumulation of this transcriptional activator promotes tumour cell proliferation and angiogenesis in HCC.

Tumour growth, invasion and metastasis in HCC are critically dependent on efficient angiogenesis. In the non-malignant state, angiogenesis depends on the balance between stimulatory and inhibitory factors. Pro-angiogenic factors secreted by tumour cells, endothelial cells and pericytes include VEGF, PDGF, transforming growth factor (TGF) α, TGF β, EGF and fibroblast growth factor (FGF). In pathological studies in HCC, overexpression of VEGF has been linked with high tumour grade, increased disease recurrence, increased vascular invasion, poor disease free survival and poor overall survival.

These factors, and molecules involved in the pathways they activate, represent promising therapeutic targets. Targeted agents that inhibit these oncogenic and angiogenic signalling pathways may have therapeutic potential for the treatment of HCC. More recently, the multi-kinase inhibitor sorafenib was shown to be effective in patients with advanced HCC in the pivotal SHARP trial.

Presently, the value of sorafenib in the adjuvant setting after resection or local ablation is under investigation with the hope also to decrease rate of recurrence, and perhaps there is an indication for patients on the waiting list for liver transplantation to reduce the drop-out rate. In addition, there is a strong rationale to combine TACE with Sorafenib to enhance efficacy.

References

1. Teufel A, Staib F, Kanzler S, Weinmann A, Schulze-Bergkamen H, Galle PR. Genetics of hepatocellular carcinoma. World J Gastroenterol. 2007 Apr 28;13(16):2271-82.
2. Llovet JM, Ricci S, Mazzaferro V, Hilgard P, Gane E, Blanc JF, de Oliveira AC, Santoro A, Raoul JL, Forner A, Schwartz M, Porta C, Zeuzem S, Bolondi L, Greten TF, Galle PR, et al. SHARP Investigators Study Group. Sorafenib in advanced hepatocellular carcinoma. N Engl J Med. 2008 Jul 24;359(4):378-90
3. Galle PR: Sorafenib in advanced hepatocellular carcinoma - We have won a battle not the war. J Hepatol 2008, 49(5):871-873.
4. Wörns MA, Weinmann A, Pfingst K, Schulte-Sasse C, Messow CM, Schulze-Bergkamen H, Teufel A, Schuchmann M, Kanzler S, Düber C, Otto G, Galle PR. Safety and Efficacy of Sorafenib in Patients With Advanced Hepatocellular Carcinoma in Consideration of Concomitant Stage of Liver Cirrhosis. J Clin Gastroenterol. 2009; 43:489–495
5. J. M. Schattenberg, Peter R. Galle. Show me your signaling, and I'll tell you who you are. J Hepatol 2009, in press

Signal Transducers and Activators of Transcription (STAT3) and Interleukin (IL-6) Signalling Patterns in Inflammatory Bowel Disease are Influenced by Disease Durations

R A Raja Ali*, **, A O'Gorman, A Colleran**, A Ryan**, S A Zulquernain*, J M Lee*, L J Egan*, ****

*Department of Gastroenterology, University Hospital Galway, **Department of Clinical Pharmacology and Therapeutic, National University of Ireland, Galway, Ireland

BACKGROUND

Inflammatory bowel diseases (IBD) are idiopathic, immune-mediated inflammatory disorders, which can be divided into 2 subtypes, Crohn's disease (CD) and ulcerative colitis (UC). Various studies have shown that multiple cytokines including interleukin 6 (IL-6) are involved in the pathogenesis of IBD. IL-6 activates various members of a family of cytoplasmic transcription factors termed signal transducers and activators of transcription (STAT). There is an increased risk of colorectal cancer in patients with long standing IBD. An important finding in IBD associated colorectal cancers is hyper activation of STAT3 in various cell types, but the mechanisms linking inflammation and cancer through STAT3 are unclear. STAT3 activation by IL-6 appears to play an important functional role in IBD - associated colon cancer in animal models, but the extent to which this pathway is relevant in IBD patients is not known.

Therefore, the aim of this study is to measure colonic STAT3 activity, and the level of serum IL-6, in IBD patients of different disease duration and disease activity.

MATERIALS AND METHODS

Three groups of IBD patients were defined based on duration and disease activity index; Harvey Bradshaw Index (HBI) for CD and ulcerative colitis disease activity index (UCDAI) for UC. Group 1 (active and <5 years), group 2 (inactive and < 5 years), group 3 (inactive and > 25 years) and group 4 healthy control patients. Demographic details along with disease extent, smoking status, medications, HBI and UCDAI indices were all recorded. Intestinal expression of t-STAT3, phospho- STAT3 (p-STAT3) in different groups of IBD and control patients was examined by western blotting and immuno-histochemistry. Serum IL-6 level in four different groups was also measured by ELISA. This research was approved by the local clinical and research ethics committee.

RESULTS

To date, a total of 30 patients (18 males and 12 females, mean age 50.8 years, IQR 33-67) and 10 control healthy patients (5 males and 5 females, mean age 46.7 years, IQR 46-58) have been enrolled. Results to date indicate there is an increase expression of t-STAT3 in all disease groups as compared with healthy controls. P-STAT3 level was elevated in all disease compared to healthy control groups and localised to both epithelial and mononuclear cells. Serum IL-6 is elevated in all disease groups [G1: 7.6-12, G2: 3.2-7.6, G3: 16.5-73.2, G4: 0-3.1pg/ml] and is highest in long standing IBD (group 3) patients [G1: G4 p=0.02, G2:G4 p=0.114, G3:G4 p=0.01]

CONCLUSION

T-STAT3 is highly expressed in the colon of IBD patients. Serum IL-6 is elevated independent of the disease activity index of IBD patients, most notably in patients with long standing disease. Elevated IL-6 signalling may in part explain this elevated colon cancer risk in patient with long standing IBD.

Non-Small-Bowel Lesions Encountered During Double-Balloon Enteroscopy - What Lessons Can We Learn?

H P Tee, A Kaffes

Royal Prince Alfred Hospital, Sydney, Australia

BACKGROUND

Non-small-bowel lesions (NSBL) which are responsible for obscure GI bleeding (OGIB) are often found while performing small bowel endoscopy including capsule endoscopy ans push enteroscopy. This study aims to report the incidence of NSBLs encountered during DBE procedures and analyze their significance.

MATERIALS AND METHODS

A retrospective study was carried out in a tertiary referral hospital in Australia from June 2004 to November 2008. A total of 228 (150 antegrade and 78 retrograde) were available for analysis. All cases were referred for obscure gastrointestinal bleeding (OGIB) with previous gastroscopy, colonoscopy and capsule endoscopy. Incidence of NSBL (all and newly diagnosed) encountered during DBE was determined.

RESULTS

There were 228 DBE procedures performed in 179 patients. The mean number of DBE procedures was 1.27 per patient. The mean age (SD) of the patients was 62 ± 16 years. There were 94 females (52.5%). The positive yield for a bleeding lesion was 65.9%. Of the 179 patients, 44 (24.6%) had NSBL (19 of them had dual pathology with small-bowel lesions and NSBL); 27 (15.1%) had lesions not detected by any previous endoscopic procedure. The commonest types of missed lesion were vascular (n=16, angioectasia, GAVE, haemorrhoids, varices), followed by peptic (n=9, hiatus hernia with Cameron's ulcers, Upper GI ulcers, GORD) and neoplastic (n=3, polyps and carcinoma).

CONCLUSION

This study showed a significant proportion of patients (24.6%) referred for DBE had bleeding pathology within the reach of conventional endoscopy and 15.1% were completely missed by all previous investigations. Careful examination during DBE of the entire GI tract is essential and repeating conventional endoscopy may be required.

Predominance of G to A Codon 12 Mutation in K-ras2 Gene in Colorectal Cancer

O Zulhabri*, R Jamal*, S Ismail **, M R Isa *, W Z Wan Ngah**

*UKM Medical Molecular Biology Institute (UMBI), Kuala Lumpur, Malaysia, **Department of Surgery, Faculty of Medicine, UKM, Kuala Lumpur, Malaysia, ***Department of Pathology, Faculty of Medicine, UKM, Kuala Lumpur, Malaysia

BACKGROUND

K-ras2 gene mutations, especially in codons 12 and 13 are one of the earliest events in colon carcinogenesis. However, the type of mutation may differ in different ethnic groups.

MATERIALS AND METHODS

DNA was extracted from 25mg tumour tissue (70) taken from core and normal tissue distant from the tumour. Exon 1 and exon 2 of K-ras2 gene, encompassing codons 12, 13 and 61 were amplified. Mutation hotspots were detected using PCR-SSCP method and confirmed by direct DNA sequencing analysis.

RESULTS

Mutations were identified in 14 out of 70 (20%) colorectal carcinoma tissues compared to none found in normal colonic tissues (0/49). Single base transitions from GGT to GAT (glycine to aspartate) at GpC site in codon 12 was detected in 9 samples while 3 samples presented with a GGC to GAC transition at GpC site in codon 13. GGT to GTT transversions (glycine to valine) at GpC site in codon 12 occurred in two samples. The K-ras2 gene mutations showed correlation with tumour size ($p=0.01$) and degree of tumour differentiation ($p=0.03$) but not to tumour site and Dukes' staging ($p>0.05$). Mutations were only detected in the tumour tissues but not in the normal tissues of the same patients.

CONCLUSION

Our results suggest an increased frequency of G to A transition of codon 12 mutation in K-ras2 gene which correlated with tumour size and degree of tumour differentiation.

The Prevalence of Gastric Atrophy and Intestinal Metaplasia Amongst Dyspeptic Patients Without Significant Gastroduodenal Disease: A Cross – Sectional Endoscopic Screening Study

N Loganathan*, C S Qua*, J L Hartono, K S Mun, P L Cheah**, K L Goh***

*Pathology, **Divisions of Gastroenterology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Gastric cancer is the second leading cause of cancer-related death worldwide, with the Asia-Pacific region having one of the highest incidence rates. Most patients are found to have advanced disease at diagnosis, resulting in poor outcome despite treatment. Population screenings for gastric cancer in some countries (Japan, Korea) have significantly improved the outcome. The prevalence of precursor lesions for gastric cancer such as Gastric Atrophy (GA) and Intestinal Metaplasia (IM) in Malaysia is still unknown.

OBJECTIVES

To determine the prevalence of GA and IM in a multiracial Asian population and to identify risk factors for developing pre-malignant gastric lesions in different ethnic groups.

MATERIALS AND METHODS

Consecutive subjects from major ethnic groups of Malay, Chinese and Indian attending outpatient upper endoscopy at University of Malaya Medical Centre (UMMC) for dyspepsia were recruited from 1/6/2008 to 28/2/09. Esophagogastroduodenoscopy (EGD) examination using white light without magnification was carried out on all subjects. Four standardized biopsy specimens were obtained from the antrum and body of stomach in addition to rapid urease test (RUT). The presence and degree of IM or GA were classified using the updated Sydney classification.

RESULTS

A total of 300 subjects were recruited, which comprised of 100 Malays (33.3%), 108 Chinese (36.0%) and 92 Indians (30.7%). There were 128 male (42.7%) and 172 female (57.3%) subjects, with a mean age of 47± 15.6 years. Overall, the frequencies of IM were: none (208, 69.3%), mild (74, 24.7%), moderate (14, 4.7%) and severe (4, 1.3%). The frequencies of GA were: none (203, 67.7%), mild (83, 27.7%), moderate (14, 4.7%) and severe (0, 0%). Possible predictive factors for GA and IM which include age, gender, ethnicity, family history of gastric cancer, smoking, alcohol, *Helicobacter Pylori* infection, and dietary habits (chili, salt, fresh fruits and vegetables) were analyzed and were found to be of no statistical significance.

CONCLUSION

The prevalence of GA and IM among dyspeptic Malaysians presenting to our hospital was generally higher than Western countries with low prevalence of gastric cancer but lower than other Asian countries with high prevalence of gastric cancer. There was no predictive factor for GA or IM identified in this study.

The Prevalence of Esophageal Mucosal Sensitivity to Acid Exposure in Reflux Esophagitis: Comparison Between Subjects With and Without Heartburn

J L Hartono, C S Qua, C H Wong, K L Goh

Division of Gastroenterology, University of Malaya Medical Center, Kuala Lumpur, Malaysia

BACKGROUND

The presence of a breach in the esophageal mucosa is thought to predispose to increased sensitivity to acid exposure in reflux esophagitis (RE), which can be detected by Acid Perfusion Test (APT). Therefore all patients with RE should theoretically have a positive APT.

OBJECTIVE

To determine and to compare the prevalence of APT positivity between RE subjects with and without heartburn.

MATERIALS AND METHODS

This was a prospective study with subjects in 2 groups: RE with heartburn (RE+HB) and RE without heartburn (RE-HB). All subjects underwent esophagogastroduodenoscopy (EGD) and APT as described by Bernstein to detect esophageal mucosal acid sensitivity. RE was defined as the presence of esophageal mucosal breaks according to Los Angeles (LA) classification. Heartburn was defined as burning pain or discomfort behind the sternum rising up towards the throat. The presence of heartburn during APT was regarded as positive.

RESULTS

A total of 51 subjects were recruited from gastroenterology unit in University Malaya Medical Center, Kuala Lumpur. There were 35 subjects in RE+HB group and 16 subjects in RE-HB group. APT positivity was 24/35 (68.6%) in RE+HB group and only 2/16 (12.5%) in RE-HB group. The proportion of positive APT in RE-HB group is significantly lower than RE+HB group ($p<0.001$).

CONCLUSION

Even though both RE-HB and RE+HB subjects had esophageal mucosal injury, RE-HB subjects have less esophageal acid sensitivity as determined by APT which explain the lack of heartburn symptom generation in this group.

Pregabalin Prevents Development of Visceral Pain Hypersensitivity (VPH) in Oesophageal Acid Sensitisation in Healthy Volunteers

Y C Chua, K S Ng, A Sharma, J Jafari, V F Ban, E Yazaki, C Knowles, Q Aziz

Wingate Institute of Neurogastroenterology, Centre for Gastroenterology, Barts and the London University, London E1 2AJ, United Kingdom.

BACKGROUND

In humans, the induction of primary and secondary hyperalgesia by oesophageal acid infusion is due to peripheral and central sensitisation respectively[1]. Pregabalin, a centrally acting modulator of voltage-sensitive calcium channels, attenuates the release of multiple neurotransmitters[2] in the central nervous system, thus reducing VPH. However, the reduction of acid-induced oesophageal hypersensitivity using pregabalin has yet to be explored. This study will test healthy humans and the effects of pregabalin on the development of acid-induced oesophageal VPH.

MATERIALS AND METHODS

This is a single center, placebo-controlled, double blind, randomised, two-period, crossover study with three separate visits. Visit 1: The location of the lower oesophageal sphincter was determined using oesophageal manometry. Then, proximal and distal oesophageal electrical stimulation using bipolar ring electrodes were used to determine both pain thresholds (PT). Later, hydrochloric acid was infused into the distal oesophagus for 30mins and the PT measured again 30 and 90mins after infusion. Visits 2 & 3 (with >2 weeks gap): oesophageal acidification and PT measurements were repeated after a course of either pregabalin or placebo (pregabalin at 75mg twice daily for 3 days, 150mg twice daily for one day and 150mg once daily).

RESULTS

All three visits were completed by 8 subjects (6 males, 2 females; aged 21 to 31 years old). The mean 'change in PT' in the proximal oesophagus was +2.65mA after treatment with pregabalin, compared with -4.85mA after treatment with placebo ($p < 0.01$). There were no differences in the change in PT after acidification in the distal oesophagus.

DISCUSSION AND CONCLUSION

This study has shown that the development of secondary hyperalgesia in the proximal oesophagus after acidification of the distal oesophagus can be prevented by pregabalin. Pregabalin acts to reduce central sensitisation (proximal oesophagus) rather than as an analgesic and thus has no significant effect of the site of acid exposure (distal oesophagus).

Detection of Increased Serum Interleukin 17 in Patients with *Helicobacter Pylori* Infection and Inflammation

S A Zulquernain*, **, R A Raja Ali*, J M Lee*, L J Egan*, A P Moran**

*Department of Gastroenterology, Galway University Hospital, Galway, **Department of Microbiology, National University of Ireland, Galway, Ireland

BACKGROUND

Interleukin 17, a pro-inflammatory cytokine, is predominantly secreted by the unconventional T (TH 17) cells. We aim to study the levels of serum Interleukin 17 in patients with helicobacter infection and hence the relation of this pro-inflammatory cytokine and TH 17 cells in gastro-duodenal inflammation.

MATERIALS AND METHODS

This prospective study included 62 patients attending an open access endoscopy unit for oesophago-gastro-duodenoscopy. Patients receiving antibiotics or NSAIDs, on immunosuppressant's, with alcohol abuse, with previous gastric surgery or with other chronic inflammatory diseases and co-morbidities were excluded from the study. Voluntary written consent was obtained from each participant and confidentiality maintained. Clinical data including age, background history, and medication history, symptom record with alarm score, smoking history, brief physical examination and endoscopy results were recorded. Ten millilitres of blood was collected before the endoscopy procedure. As a part of the OGD procedure a CLO biopsy and an antral biopsy were taken and their results recorded in the database. Blood collected from the participants was centrifuged and serum stored at -70 degrees centigrade. Serum samples were used to measure IL 17 levels by quantitative sandwich enzyme immunoassay ELISA technique (R & D systems, MN.)

RESULTS

Of the 62 patients, 28 (45%) were female and 34 (55%) were male with a mean age of 46 years. A control group of 10 patients was identified as having normal endoscopies, no medical background or on any medications, negative for helicobacter infection, normal histology and undetectable levels of IL 17. The lower detection level of IL 17 was 8 pg/ml and the helicobacter infection was established by CLO biopsy and confirmed by histology. The helicobacter pylori positive group (n=19) had 47.3% (n=9) patients with elevated levels of serum IL 17 as compared to 13.9% (n=6) in the H.P negative group (n=43), indicating an odds ratio of 5.550 and a p value of 0.005 (Pearson Chi-Square). In H.P positive group 31.5% (n=6) patients and in H.P negative 36% (n=15) were already on proton pump inhibitors. In this cohort 24% (n=15) were smokers and out of these 20% (n=3) had elevated serum IL 17.

CONCLUSION

- All the patients with increased levels of serum IL 17 had endoscopic and histological proven inflammation.
- Results showed a significant likelihood of helicobacter pylori positive patients having elevated serum IL 17 (p= 0.005).
- Further investigations and comparisons of severity of inflammation with serum and tissue IL 17 and TH 17 cells in gastric compartment are warranted.

Review of Liver Biopsy in University Kebangsaan Malaysia Medical Centre (UKMMC)

C S Ngiu*, H Aizan*, A Sheikh*, R Hamizah*, S F Low, M Z Mazlam*, M R Isa*****

*Gastroenterlogy Unit, Department of Medicine, UKMMC, Kuala Lumpur, Malaysia, **Radiology Department, UKMMC, Kuala Lumpur, Malaysia, ***Histopathology Department, UKMMC, Kuala Lumpur, Malaysia

BACKGROUND

To evaluate the technical success and specimen adequacy of percutaneous ultrasound guided biopsy in our centre.

MATERIALS AND METHODS

During a 30 month period, a total of 92 ultrasound guided percutaneous liver biopsies were performed in 89 patients. The indications were diagnosis and management (65.2%), prognostication and management decision (34.8%). The procedures were performed by our gastroenterology team (35.9%) and radiology team (64.1%) using a automated trucut gun with 14G (2.2%), 16G (71.7%), and 18G (18.5%) gauge automated biopsy needle, and the type of needle used was not stated in 7.6%. The number of passes, specimen size, specimen adequacy, technical success and complication rates were reviewed. Histopathologic specimens were quantitatively and qualitatively evaluated.

RESULTS

Liver biopsy technical success, which defined as ability to secure a specimen for evaluation, was 95.7%. The mean number of passes was two. The mean specimen length was 18.7 mm. The mean complete portal tract (CPT) was 6.45. Only 38% of cases the number of CPT were stated. There was one documented complication (1.1%) with hemoperitoneum requiring blood transfusion and recovered with conservative treatment. The diagnoses of the biopsies were chronic hepatitis B (42.4%), chronic hepatitis C (21.7%), fatty liver disease (13%) and others (21.8%).

CONCLUSION

This study showed that percutaneous ultrasound guided liver biopsy in our centre is safe and has a high technical success rate. This technique has an important role in the management of liver disease.

Text Messaging in Medical Research

S T Kew

International Medical University, Kuala Lumpur, Malaysia

BACKGROUND

An interesting new trend among the young people is the ubiquitous use of mobile phone in sending and receiving text messages. The simple text messaging is changing behavior like never before, allowing cash-strapped young people to remain connected virtually 24 hours. There is over 90% penetration of cell phones in Malaysia, perhaps even higher penetration in urban centres: messaging has become an important tool to reach out to the millennial generation. We report here a successful use of text messaging in collecting data in a medical research project.

MATERIALS AND METHODS

We conducted a double blind, randomized controlled trial to assess the efficacy and safety of a probiotic in the management of Irritable Bowel Syndrome (IBS). The subjects were young undergraduates in a private medical university in Malaysia. They were identified to have IBS based on Rome III criteria on a previous university wide survey. They were randomly assigned to either the treatment arm receiving probiotic on a daily basis, or the placebo arm receiving placebo instead. Subjects were required to score their symptoms at baseline, and weekly for a total of 8 weeks. There was also the IBS quality of life assessment at baseline, at 4 weeks and at end of 8 weeks. Subjects were given the option to either communicate their symptom scores by text messages via mobile phones, or by email. All subjects chose the text messaging option.

RESULTS

The response rate from a total of 38 subjects who completed the study was 100%. This included baseline and weekly symptom score, and IBS quality of life assessment. The average duration of subjects sending in their responses is within a week, with minimal prompting.

CONCLUSION

This study found text messaging via mobile phone an excellent instrument in collecting personal response data from trial subjects in medical research. It is particularly useful when data are to be collected regularly and frequently. It is also particularly useful when trial subjects are young people, those belonging to the millennial generation.

What is the Learning Curve for Double-Balloon Enteroscopy? A Retrospective Analysis with Regards to the Technical and Clinical Success Rates

H P Tee, A Kaffes

Royal Prince Alfred Hospital, Sydney, Australia

BACKGROUND

Double-balloon enteroscopy (DBE) is a relatively new procedure with limited data on technical success and no guidelines on training. The study aims to determine the learning curve for DBE.

MATERIALS AND METHODS

A retrospective study in a tertiary referral hospital in Australia of 282 cases (184 antegrade DBE; 98 retrograde DBE) was conducted. All cases had a target lesion in the small-bowel identified by capsule endoscopy or computed tomography (CT) scan. The technical success was determined by insertion past the duodeno-jejunal flexure for antegrade procedure and stable overtube placement in the ileum for retrograde procedure. Clinical success was defined as successful identification or exclusion of the target lesions, with all other cases categorised as clinical failures.

RESULTS

The technical and clinical success rates for aDBE was 100% and 89.7% respectively, whereas rDBE has a technical and clinical success rate of 77.6% and 69.4%. When analyzed by blocks of 30 cases, aDBE did not showed a distinct learning curve. Technical and clinical success rates for rDBE continued to rise over time, although on logistic regression analysis testing for trend there was no significance (p=0.27 and 0.36). It was calculated that at least 30 cases of rDBE were needed to achieve a technical successes of 80%.

CONCLUSION

There was no distinct learning curve for aDBE. Technical and clinical successes continued to increase over time for rDBE, although a learning curve could not be determined statistically.

Temporary Placement of a Prototype Removable Fully - Covered Self-Expandable Metal Biliary Stent (RCSEMS) in the Management of Post-Orthotopic Liver Transplantation Anastomotic Stricture (with video)

H P Tee, M James, A Kaffes

Royal Prince Alfred Hospital, Sydney, Australia

BACKGROUND

Post-operative biliary strictures are the most common cause of benign biliary stricture (BBS) in western countries, secondary to either operative injury or anastomotic biliary stricture following orthotopic liver transplantation (OLT). Surgery or endoscopic interventions are the mainstay of treatment for BBS. This is a feasibility study to evaluate the use of RCSEMS in post-OLT anastomotic stricture.

MATERIALS AND METHODS

Patients with refractory, symptomatic BBS were offered temporary RCSEMS placement. Morbidity, clinical parameters and long-term biliary patency were evaluated after RCSEMS placement/removal. A tertiary-care centre with liver transplantation services. Temporary placement of a prototype RCSEMS (9.0 Fr gauge delivery system, 8 mm mid-portion, 10 mm at either ends and 40 mm long) in the common bile duct across the biliary stricture. Medium-to-long-term patency of biliary duct.

RESULTS

Three patients (all men, aged 44, 52 and 53) with refractory, symptomatic post-OLT anastomotic biliary strictures were recruited. There was no morbidity associated with stent placement and removal in 3 cases. Clinical parameters improved after the RCSEMS placement. There was resolution of the anastomostic stricture and medium-to-long-term biliary patency was achieved in all the patients. No further biliary intervention was required within 2, 12 and 16 months follow-up after stent removal.

CONCLUSION

Preliminary results of temporary placement of a RCSEMS demonstrated promise in the treatment of post-OLT biliary anastomotic strictures.

A Prospective Randomized Controlled Trial Evaluating Cap-Assisted Colonoscopy Versus Standard Colonoscopy - A Western Experience

H P Tee, C Corte, H Al-Ghamdi, E Prakoso, R Chettiar, J Darke, W Rahman, S Davidson, W S Selby, S P Griffin, A Kaffes

Royal Prince Alfred Hospital, Sydney, Australia

BACKGROUND

Despite the fact that there is vast experience in colonoscopy practice, there are substantial caecal failure and polyp miss rates. This study evaluates the use of cap-assisted colonoscopy (CAC) in improving these parameters.

MATERIALS AND METHODS

A prospective randomized controlled trial conducted from March 2008 to February 2009. The primary endpoint was caecal intubation rate/time and the secondary endpoint was polyp detection rate. Consecutive cases of total colonoscopy were recruited. Exclusion criteria were prior colonic resection, pregnancy, severe medical co-morbidity, acute lower GI bleeding and ischemic colitis. Randomization into either standard colonoscopy (SC) or CAC was performed. CACs were performed by fitting a disposable plastic cap produced by Olympus on the tip of conventional colonoscopes.

RESULTS

There were 200 cases in each group. CAC, when compared to the SC group, has no significant difference between them in term of ceacal intubation rate/time, polyp/adenoma/advanced adenoma detection rates. Multivariate analysis identified predictors of faster caecal time to be male gender, colonoscopy by a consultant, good or satisfactory bowel preparation and non-use of hyoscine. On the other hand, older age, polyp follow-up as the indication, no history of prior abdominal surgery, patients having just colonoscopy, trainee-performed colonoscopy and the use of hyoscine were the independent predictors for higher polyp detection rate.

CONCLUSION

There was no significant difference between CAC and SC in caecal intubation rate/time and polyp detection rate.

High Resolution Manometry (HRM): The Way Forward

Case series study of patients in Hospital Universiti Sains Malaysia, Kota Baharu (HUSM) and Hospital Sultanah Nur Zahirah, Kuala Terengganu (HSNZ) January – June 2009

A R Amry*, H Azril**

*Hospital Universiti Sains Malaysia, Kota Baharu (HUSM), Kelantan, Malaysia **Hospital Sultanah Nur Zahirah, Kuala Terengganu (HSNZ), Terengganu, Malaysia

BACKGROUND

High resolution manometry is the combination of a number of techniques that enhance the accuracy of pressure measurement using water perfused manometric assemblies. These techniques have been developed and can now be applied in a coherent system, making manometry examination more accurate and easily interpreted. Use of computers for data acquisition has allowed sampling of pressure data with increased temporal resolution and more accurate pressure measurements using a manometry catheter with a minimum 16 sensors and at our hospitals to a maximum of 24 sensors for better and more accurate test. This is far better than the conventional manometry with 8 sensors channel. We analysed high resolution manometry data from both hospitals from January to June 2009, and series of cases are detailed below.

MATERIALS AND METHODS

Twenty patients undergo HRM at both hospitals from January – June 2009, 7 cases are males (35%) and 13 Females (65%). The majority of them were aged below 50 years (60%), (9 females and 3 male patients).All the cases had undergone upper endoscopy with normal findings. The majority (65%) presented with sympthomatic reflux that do not respond to proton pump inhibitors (PPI).

Atypical chest pain that don't respond to PPI in 25% cases and the 5% each presented with dysphagia and epigastric pain.

RESULTS

Ineffective Esophageal Peristalsis made up 50%, followed by Normal HRM study in 35%. Other 3 diagnosis made up 5% each were Hypertensive Nutcracker Esophagus, Non specific Esophageal Motor Disorder and Hypotensive Esophageal Peristalsis.

DISCUSSION

There are many advantages of HRM over the conventional manometry. They include:

HRM provides simultaneous intraoesophageal pressure data measurement through out the entire length of the oesophagus including the LOS. This will give better picture of basal LOS pressure and oesophageal peristalsis. Spatiotemporal plot gives better data representation as human eyes and brain recognizes patterns presented as pictures rather than graphs and lines. The ability to measure pressure gradient along the oesophagus and across the gastro-oesophageal junction and to clearly show the presence of hiatus hernia .

The ability to clearly demonstrate the respiratory pattern in the thorax and abdomen in relation to swallowing. Easy to perform the study, once the LOS is identified there is no need to withdraw the assembly. More accurate in differentiating patients with severe oesophageal motor dysfunction especially between aperistaltic disorders and achalasia, that could not be distinguished by conventional manometry. HRM provides detail information with regards to segmental nature of oesophageal peristalsis that is not provided by conventional manometry since the sensors are spaced too far apart.

The ability to accurately predict the success of bolus transport and identify clinically important abnormalities that could not be detected by conventional manometry especially in patients with endoscopy negative dysphagia. Aid and facilitate the placement of pH probe accurately for 24-hour pH study especially in patients with hiatus hernia and patients with weak or unstable LOS which prove to be difficult and time consuming with conventional manometry. In difficult cases combine fluoroscopy and high-resolution manometry improve the ability of detecting mechanical factors responsible for the movement (or lack of movement) of boluses. This is done by integrating the video and manometry data using a video card in the computer and feeding the video signal from the fluoroscopy unit into the card

In summary High Resolution Manometry is the future of motility investigation.

REFERENCES

1. *Fox M, Hebbard G, Janiak P, Brasseur JG, Ghosh S, Thumbshirn M,Fried M, Schwizer W. High-resolution manometry predicts the success of oesophageal bolus transport and identifies clinically important abnormalities not detected by conventional manometry. Neurogastroenterol Motil. 2004; 16(5): 533-42.*
2. *Ghosh SK, Pandolfino JE, Zhang Q, Jarosz A, Shah N, Kahrilas PJ. Quantifying Esophageal Peristalsis with High-Resolution Manometry: A study of 75 asymptomatic volunteers. Am J Physiol Gastrointest Liver Physiol. 2006; 12.*
3. *Clouse R and Stiano A. Topography of esophageal peristaltic pressure wave. American Journal of Physiology – Gastrointestinal and liver physiology 261, G677-684 – 1991.*
4. *Diamant N. Physiology of esophageal motor function. Gastroenterology Clinic North American. 1989; 18: 179-94.*
5. *Clouse RE, Staiano A, Alrakawi and Haroian L. Application of topographical method to clinical esophageal manometry. American Journal of Gastroenterology. 95; 2720-30.*
6. *Fox M, Hebbard G, Janiak P et al. The advantages of high resolution oesophageal manometry in clinical practice. GUT 25 (Supp I): A 42 2003.*

Translation and Validation of ROME III Questionnaire into Bahasa Malaysia Language and the Prevalence of Irritable Bowel Syndrome Among Healthy Volunteers in the Campus of a University

A Waid*, Y Y Lee, S Abdullah** , A A Rahim****

*Hospital Sultanah Bahiyah Alor Setar, Kedah, Malaysia, **Hospital University Sciences Malaysia Kubang Kerian, Kelantan, Malaysia

BACKGROUND

Irritable Bowel Syndrome (IBS) is a common functional gastrointestinal disease. ROME III designed a new set of questionnaire and made changes to the criteria for diagnosis of IBS in 2006. This study translated and validated the new ROME III questionnaire into Bahasa Malaysia (BM) language and used it as a tool to determine the prevalence of IBS among healthy volunteers in a university hospital campus.

MATERIALS AND METHODS

The clinometric of translated questionnaire was assessed with Cronbach's coefficient, intra-class correlation coefficient (ICC) and discriminant validity using Wilcoxon test in a pilot study involving 30 patients with IBS and 30 controls. The questionnaire was then used to determine the prevalence in 229 consecutive healthy volunteers in the campus with informed consent. Sociodemographic data, red flags and psychosocial alarm symptoms were also studied and multivariable analysis was employed to determine the associated risks with IBS.

RESULTS

The Cronbach's coefficient was 0.78, ICC 0.79 and good discriminant validity with $p<0.001$. The prevalence of IBS was 11.8% (n=27) in 229 subjects with subtype M (7% or n=15) the commonest. Mean age 37.4±15.9 years old. Females constituted 54.1% and males 45.9%. There were more psychosocial alarm and red flags symptoms reported in IBS compared to non-IBS ($p<0.001$). Multiple logistic regression analysis showed an older age and tertiary education was associated with higher risks of getting IBS.

CONCLUSION

The translated BM ROME III IBS questionnaire had good clinometric properties. The prevalence of IBS among healthy subjects in university hospital campus was 11.8% and risks factors included an older age and tertiary education.

Esophagectomy for Achalasia?

N Nurul*, A B Azrina*, P Selvindoss*, P Kandasami, G Ramesh***

*Department of Surgery, Tuanku Jaafar Hospital, Seremban, Negeri Sembilan, Malaysia **International Medical University, Negeri Sembilan, Malaysia

BACKGROUND

Esophageal myotomy is the standard primary therapy for achalasia. Various other forms of treatment are also available besides surgery, which include dilatation and botulinum toxin injection. Esophagectomy has not been much of an option except in end stage achalasia or failure of myomectomy. Here we briefly discuss surgical management of achalasia cardia at our centre.

MATERIALS AND METHODS

Five cases of achalasia cardia were managed from 2008-2009 August. All records were traced, history and management were reviewed and outcome of surgery recorded.

RESULTS

Three cases were referral from hospitals outside Negeri Sembilan as Tuanku Jaafar hospital is the referral centre for Upper GI Surgery and 2 were from Negeri Sembilan. The youngest patient was 14 years old and the oldest was 60. All patients had undergone dilatation prior to surgical management. Average duration of dysphagia for the patients were 4 years. Despite dilatations all patients were symptomatic for dysphagia about 2 weeks after dilatation. All patients had Barium Swallow done prior to referral but only two had manometry done. One patient had megaesophagus and a sigmoid shaped esophagus on Barium and he has been having dysphagia for about 4 years. This patient was planned for total esophaectomy in view of the megaesophagus. All the rest were planned for laparoscopic Heller's with Anterior Partial fundoplication. All patients recovered well post op. Only the patient with esophagectomy had gastrograffin done as per our esophagectomy protocol.

DISCUSSION

Achalasia is a primary disorder of the esophagus characterized by loss of peristalsis in the esophageal body and failure of relaxation of the lower esophageal sphincter. Failure rate of myotomy has been cited to be 10-20%[1] requiring additional procedures. Many patients who develop recurrent dysphagia present with weight loss and dilated "burned out" esophagus and are not amenable to preservation of the esophagus. Reports have found the most frequent indication for esophagectomy is tortous megaesophagus[2]. Other authors also favoured resection for patients with recurrent or end stage disease. Mortality for esophagectomy in end stage achalasia is low and has been cited to be as low as 2%. Long term side effects of esophagectomy include regurgitation, dumping syndrome and anastomotic stricture. Long term follow up is essential.

Traumatic Diaphragmatic Hernia

N Nurul*, R Dharmendran*, P Selvindoss*, P Kandasami*, G Ramesh**

*Department of Surgery, Tuanku Jaafar Hospital, Seremban, Negeri Sembilan, Malaysia **International Medical University, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

We report three consecutive cases of traumatic diaphragmatic hernia at our centre within a 4 month period. All cases were due to motor vehicular accidents (MVA). Diagnosis was made based on clinical examination and radiological findings.

CASE REPORT

Case 1

A 19 year old male involved in a MVA, came to A&E with breathlessness and abdominal pain. On examination, air entry on the left chest was markedly reduced, and initially suspected to have a hemothorax. A chest Xray showed bowel gas in the left hemidiaphragm. The patient was diagnosed with diaphragmatic hernia and taken for surgery. At laparotomy a tear away from the central tendon was found with stomach as contents. A repair was done with prolene sutures.

Case 2

A 20 year old female also involved in a MVA, admitted with chest pain and abdominal pain. A chest X-Ray also showed bowel shadow on the left side. CT abdomen was done and intra abdominal injury was found. The patient had also a bladder rupture. The hernial contents were stomach, spleen and small bowel which are reduced, except for the spleen which was removed due to uncontrolled bleeding. A similar repair was done of the defect.

Case 3

A 28 year old male involved in a MVA, admitted with shortness of breath and chest pain together with abdominal pain.

XRay showed a raised Left hemidiaphragm with stomach in the chest. At laparotomy there was a diaphragmatic tear close to the central tendon with mesenteric tear and devascularization of a segment of small bowel and associated liver injury.

DISCUSSION

Traumatic diaphragmatic rupture can result from penetrating, blunt or crush injuries. The left hemidiaphragm is most often affected in cases of blunt trauma. Although most traumatic hernias are seen immediately, some have long latent period before symptoms are recognized. Herniation usually involves the stomach, but can also involve spleen, bowel and liver. Elevation of hemidiaphragm with focal constriction from compression of the bowel at the site of tear in the diaphragm (collar sign), is a diagnostic finding of visceral herniation.

Repair of the hernia includes simple repair with non absorbable sutures for medium to small defects. The use of meshes have been proposed for larger defects to strengthen the repair. Of recent times laparoscopic and thoracoscopic repairs have been done in more experienced hands with similar outcomes.

Demographics of Ulcerative Colitis Patients Treated at Hospital Raja Permaisuri Bainun Ipoh, Perak

T H Ng, S Palaniappan

Medical Department, Hospital Raja Permaisuri Bainun Ipoh, Perak, Malaysia

BACKGROUND

Ulcerative colitis is a chronic inflammatory disorder limited to the colon. It is thought to be uncommon in Asia although recent publications have showed an increasing trend in the incidence. There is limited local data on this disease. The aim of this study was to evaluate the demographic data of ulcerative colitis, the severity and the current treatment and response to treatment among our local patients.

MATERIALS AND METHODS

A retrospective analysis was performed of out patient medical records attending our gastroenterology clinic with a diagnosis of ulcerative colitis. A comprehensive data collection form was used to collect data. Data collected were from patients who had been attending the clinic from April 2002 to June 2009.

RESULTS

A total of 28 patients with colitis were treated during this period. One patient was excluded due to insufficient data for analysis. There were 15 (55.6%) males and 12 (44.4%) females in this study. Patients of Malay ethnic origin were of majority (11 pts, 40.7%), followed by the Chinese (8 pts, 29.6%), Indian (6 pts, 22.2%) and others (2 pts, 7.4%). The median age at first clinical presentation was 37.5 years old. Out of this population, 81.5% (22 pts) first presented with diarrhea, 63.0% (17 pts) PR bleeding, 37.0% (10 pts) passing out mucous, 26.0% (7 pts) urgency, 18.5% (5 pts) abdominal pain, 11.1% (3 pts) tenesmus and 14.8% (4 pts) extra-intestinal symptoms (2 pts with pyoderma gangrenosum and 2 pts with seronegative arthritis). Left sided colitis (11 pts, 40.7%) is the commonest, followed by pancolitis (8 pts, 29.6%), involvement up to transverse colon (6 pts, 22.2%) and proctitis (2 pts, 2.4%). At the time of analysis, a total of 24 patients were in remission (88.9%). Majority of patients (26 pts, 96.3%) had mild disease with control from long term oral mesalazine. Other medications used include Azathioprine (8 pts, 29.6%), 6-Mercaptopurine (1 pt, 4.7%) and suppository Mesalazine (1 pt, 4.7%). Eleven patients (40.7%) required more than 1 type of oral medication for disease control. Out of 27 patients none have had colectomy for severe disease.

DISCUSSION AND CONCLUSION

UC appears to be an uncommon disease in Malaysia. Patients with ulcerative colitis usually first presented with diarrhoea and PR bleed. Surprisingly in Ipoh the disease is more commonly seen among Malays contrary to other south east Asia data for example Singapore which shows that Indians are more commonly afflicted with the disease. Ulcerative colitis seems to have a milder course among Malaysian patients as reflected by the absence of colectomy in comparison with the reported cases of 10-45% in Europe depending on regional policy and duration of disease. Most patients were well controlled with 5 amino salicylates and the need for immunosuppressive therapy was only necessary in 34.3% of patients. This series also demonstrated the lack of family history among the UC patients suggesting that there may be other factors contributing to the aetiology of IBD among Malaysian patients.

Endoscopic Ultrasound Guided Fine Needle Aspiration of Mediastinal Lymphadenopathy – The Johor Bahru Experience

W K Chan*, A George, D Kumarasingam*****

*Hospital Sultanah Aminah Johor Bahru, Johor, Malaysia, **Hospital Sultanah Aminah Johor Bahru, Johor, Malaysia, ***Hospital Sultanah Aminah Johor Bahru, Johor, Malaysia

BACKGROUND

The aim of this study was to assess the yield of Endoscopic Ultrasound (EUS) Guided Fine Needle Aspiration (FNA) evaluation of mediastinal lymphadenopathy.

MATERIALS AND METHODS

Transoesophageal imaging and assessment of mediastinal lymphadenopathy were performed in 27 patients from September 2007 till June 2009 by a single gastroenterologist experienced in endoscopic ultrasonography. A flexible Olympus echoendoscope with a linear array transducer (Olympus GF-UM 160) was used and Fine Needle Aspiration was performed with either a 19 or 22-gauge EchoTip Ultra (Wilson Cook Medical) or a 22-gauge FNA needle (Olympus). Mediastinal lymphadenopathy dimensions ranged from 0.6 cm to 5.0cm in diameter. Cytologic samples were smeared and examined by the resident cytopathologist or sent to a private laboratory.

Results Real-time imaging and visualization of the mediastinal lesions via EUS and subsequent biopsies with the FNA needle devices enabled accurate and precise tissue sampling of mediastinal lesions. Diagnostic material was obtained in 20 patients (74%) and non-representative material was found in 7 patients (26%). Cytological analysis of the biopsy specimens established malignancy in 15 patients (56%), 2 patients (7%) were diagnosed to have granulomatous changes suggestive of tuberculosis and 3 patients (11%) yielded benign specimens. Overall yield from the EUS-FNA procedures was 74%. No complications arose from the EUS-FNA procedures throughout the study duration.

DISCUSSION AND CONCLUSION

EUS-FNA has been adequately established internationally as a safe and minimally invasive method for evaluating mediastinal lymphadenopathy with minimal complications and high yield. Unfortunately in our series, our yield has been hampered by the absence of an attendant cytopathologist to assess adequacy of FNA specimens. Yield of FNA may also be reduced in FNA of small mediastinal lymphadenopathy with dimensions of less than 1cm.

Anxiety and Depression in IBS, NERD, IBS/NERD Overlap, and Healthy Control Subjects – Is there a Difference?

J L Hartono, S Mahadeva, K L Goh

Division of Gastroenterology and Hepatology, University Malaya Medical Center, Kuala Lumpur, Malaysia

BACKGROUND

Irritable Bowel Syndrome (IBS) and Non Erosive Reflux Disease (NERD) are common diseases seen in gastroenterology practice. There have been suggestions that the same mechanisms underlie the pathogenesis of both these functional gastrointestinal disorders – a unifying concept of pathogenesis. These include psychological factors such as anxiety and depression.

OBJECTIVES

To determine and to compare the prevalence of anxiety and depression in IBS, NERD, IBS/NERD Overlap patients, and healthy control subjects.

MATERIALS AND METHODS

This was a prospective study where 4 groups of patients were recruited: NERD, IBS and IBS/NERD Overlap, and healthy controls. NERD subjects were those with typical reflux symptoms without erosive changes who fulfilled the criteria by a validated questionnaire by Wong *et al*. IBS subjects were those who fulfilled Rome II criteria for IBS. IBS/NERD Overlap subjects were those who fulfilled both criteria for IBS and NERD. All subjects including those in healthy control group were asked to fill in a validated Hospital Anxiety and Depression Scales (HADS) questionnaire and a validated cut-off value of 8 or more was used to determine the presence of anxiety or depression.

RESULTS

A total of 123 subjects were recruited: 34 NERD, 34 IBS, 21 IBS/NERD Overlap, and 34 healthy controls, from gastroenterology clinic in University Malaya Medical Center. The results were summarised in Table I and Table II below.

Table I: Prevalence of Anxiety in NERD, IBS, and IBS/NERD Overlap compared to healthy control subjects

	Prevalence	P value	OR (95% CI)
Healthy Control	6/34 (17.6%)	-	-
NERD	15/34 (44.1%)	**0.035**	3.68 (1.08 – 13.09)
IBS	24/34 (70.6%)a	**<0.001**	11.20 (3.13 – 42.50)
IBS/NERD Overlap	16/21 (76.2%)b, c	**<0.001**	14.93 (3.34 – 73.79)

[a] **IBS vs NERD, p=0.049** ; OR 3.04 (1.00 – 9.42)
[b] **IBS/NERD Overlap vs NERD, p=0.040** ; OR 4.05 (1.05 – 16.42)
[c] IBS/NERD Overlap vs IBS, p = 0.88 ; OR 1.33 (0.33 – 5.56)

Table II: Prevalence of Depression in NERD, IBS, and IBS/NERD Overlap compared to healthy control subjects

	Prevalence	P value	OR (95% CI)
Control	4/34 (11.8%)	-	-
NERD	7/34 (20.6%)	0.510	1.94 (0.44 – 9.04)
IBS	14/34 (41.2%) a	**0.013**	5.25 (1.33 – 22.3)
IBS/NERD Overlap	8/21 (38.1%) b, c	**0.049**	4.62 (1.00 – 22.71)

[a] IBS vs NERD, p=0.115 ; OR 2.70 (0.82 – 9.14)
[b] IBS/NERD Overlap vs NERD, p=0.269 ; OR 2.37 (0.61 – 9.48)
[c] IBS/NERD Overlap vs IBS, p=0.955 ; OR 0.88 (0.25 – 3.08)

CONCLUSION

There was an increased prevalence of anxiety in NERD, IBS, and IBS/NERD Overlap. The prevalence of depression was increased in IBS and IBS/NERD Overlap but not in NERD. The prevalence of anxiety, but not depression, is higher in IBS and IBS/NERD Overlap compared to NERD. No difference in the prevalence of anxiety or depression was found between IBS and IBS/NERD Overlap.

Future Shock - Fatty Liver is Common in Young Malaysians

B Norhaniza, R Hamizah, V Anushya, K L Goh

Division of Gastroenterology and Hepatology, Department of Radiology, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND
Fatty Liver is a common condition in the Asia-Pacific region. Increasingly, its relationship to cirrhosis and hepatocellular carcinoma has been recognized. It is commonly detected in middle or later years of life. As it is a rapidly emerging disease we were anxious to know if a young Malaysian adult population was affected by it.

OBJECTIVE
To determine the prevalence and risk factors of fatty liver in a young Malaysian population.

MATERIALS AND METHODS
This was a cross-sectional study carried out on consecutive university students between 18 to 30 years from University Malaya. Subjects with significant amounts of alcohol consumption and history of liver diseases were excluded. All the students were subjected to a complete demographic, anthropometric and biochemical analyses followed by an abdominal ultrasound to look for fatty liver.

RESULTS
243 subjects were recruited: 140 (57.6%) females and 103 (42.4%) males; mean age 22.51± 2.57; 96 (39.5%) Malays, 94(38.7%) Chinese, 53 (21.8%) Indians. Fatty liver was diagnosed in 25 (10.3%).

Fatty liver was commoner in males (19.4%) compared to females (3.6%) ($p<0.001$). Although the prevalence amongst Malays (19.8%) and Indians (13.2%) were higher compared to the Chinese (6.4%), this was not statistically significant. Sub-analysis showed that Malay and Indian males had inappropriately higher prevalence rates of 21.6% and 33.3%. This was not statistically significance compared to Chinese males because of small numbers of subjects. However, differences between Indian and Malay males versus females subgroups in all 3 races were statistically significant. Multivariate analysis showed that the predictive factors for NAFLD were male sex [odds ratio (OR) 0.178; 95% confidence interval (CI) 0.05 - 0.61], central obesity (OR 3.65, CI 1.17 – 11.40), body mass index (OR 1.42, CI 1.20 – 1.68) and family history of IHD (OR 4.81, CI 1.15 – 20.11).

CONCLUSION
The prevalence of fatty liver in our young population was not high. However, sub-analysis showed subgroups: Indian and Malay males with an alarmingly high prevalence rates in excess of 20%. Male sex, central obesity, body mass index and family history of heart disease were found to be independent risk factors for NAFLD. Racial and gender predilection points to the role of genetic factors in the pathogenesis of this disease. A high prevalence amongst young adults portends serious metabolic problems amongst Indian and Malay males. This has been borne out by the high prevalence of diabetes and CVS disease in both these races. Females in general appear to have a significantly lower prevalence owing to the protective effect of oestrogen in the premenopausal age.

	Malay	Chinese	Indian
Male	8/37 (21.6%)	6/49 (12.2%)	6/18 (33.3%)
Female	4/59 (6.7%)	0/45 (0%)	1/35 (2.9%)
Overall	12/96 (12.5%)	6/94 (6.4%)	7/ 53 (13.2%)

Acknowledgement: *We would like to thank the Malaysian Society of Gastroenterology and Hepatology (MSGH) for funding the above study.*

Isolated Tuberculosis of Liver in Sarawak General Hospital

C H Chea, K Kharlina, A R Hashimah, J Rokayah, S Febra, N A Nik Azim

Sarawak General Hospital, Kuching, Sarawak, Malaysia

BACKGROUND

Liver tuberculosis is usually associated with an active pulmonary or miliary tuberculosis but isolated tuberculosis of liver without active pulmonary/ miliary tuberculosis is rare; in 1952 there were only 80 documented such cases (Leader, 1952).

OBJECTIVE

To illustrate our experience in Sarawak General Hospital, Kuching, Sarawak regarding cases of isolated tuberculosis of liver in a tuberculosis-endemic area in 2007 and 2008.

MATERIALS AND METHODS

There were seven patients who were included. They all underwent radiological studies to localize the liver lesion(s) and to rule out primary or secondary malignancies of the liver. The lesion(s) is/are then biopsied percutaneously with imaging-guidance and sent for microbiological confirmation of Acid-Fast Bacilli (AFB). Additionally, patients who had obstructive jaundice underwent endoscopic-retrograde-cholangio-pancreaticography (ERCP) for biliary decompression. Upon microbiological confirmation of tuberculosis, the patients were given anti-tuberculosis regime for one year and all subsequently showed clinical and radiological improvement prior to discharge and on follow-up.

CONCLUSION

Isolated liver tuberculosis can present in a variety of ways, thus needing biochemical, radiological and microbiological work-up for a firm diagnosis. Treatment is generally similar to that of pulmonary tuberculosis. Once proven, this disease seems to respond well to anti-tuberculosis regime, as illustrated in this audit.

Incidence and Management of Colonic Perforations in Hospital Tuanku Ja'afar Seremban

S Paul*, R Sree, S S Wong***

*Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia **Department of Medicine, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

To assess the incidence, clinical features, and management of endoscopic colon perforations in a large number of patients at a major medical teaching center.

MATERIALS AND METHODS

A retrospective review of medical records of all patients with colon perforations from endoscopy over a 15-year period.

RESULTS

A total of 7379 colonoscopies were performed over a 15-year period. There were 5 (0.06%) perforations and 1 (0.013%) deaths related to colonoscopy. The majority of perforations (80%) occurred in the sigmoid colon or recto sigmoid. One of the perforations was in the rectum. Mechanical injury (32%) from the tip and shaft of the endoscope were the major causes for perforation. All the perforations occurred during diagnostic colonoscopy. Eighty percent of the perforation was diagnosed by the endoscopist during the procedure itself. One of the patients was diagnosed within 12 hours of the procedure. Two of the perforation were by the medical endoscopist and three were by surgical endoscopist. Four of the perforations were by specialist within 2 years of completion of their speciality training. One was by a Senior Consultant. There were no perforations in the trainee endoscopist group.

One patient was treated conservatively and the rest had surgery. Three of the surgical patient had simple closure and one had a resection with a diverting stoma due to contamination and sepsis.

CONCLUSION

The incidence of colonoscopic perforation is small but it can result in significant morbidity and carries a small risk of death especially when it is diagnosed late.

Carcinoid Tumour of the Appendix – Appendicectomy or Right Hemicolectomy?

P Selvindoss, W H Kang

Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

Carcinoids of the appendix continue to be of interest, despite their low incidence. There is still considerable controversy surrounding these tumors, especially with regard to the role of right hemicolectomy in the surgical management. The aim of this work was review the presentation and management of carcinoid tumours of the appendix in our center.

MATERIALS AND METHODS

The records of patients who underwent appendectomies from 2001-2008 were analyzed. Six patients were included in the study. The clinical data were reviewed for demographic details, tumor size, localization in the appendix, histological patterns and surgical procedures. All patients underwent appendectomy

RESULTS

Six patients (0.55% of all appendectomies) were reported to have carcinoid tumors of the appendix. They were one man and five women with a mean age of 22.7 years. All patients were admitted for appendicitis. None suffered from the carcinoid syndrome. The site of the tumor was the apex of the appendix in all the cases. Tumor diameter was microscopic in five of the patient. The largest diameter is 3mm. As such, the treatment was appendectomy in all cases. No right hemicolectomy was necessary in any of the cases. CT scan did not show any metastasis in all the patients.

CONCLUSION

According to current guidelines, an appendectomy may be performed for small carcinoid tumors (<1cm). Reasons for more extensive surgery than appendectomy are tumor size >2cm, lymphatic invasion, lymph node involvement, spread to the mesoappendix, tumor-positive resection margins, and cellular pleomorphism with a high mitotic index. Tumor size is still considered the most important prognostic factor, with a presumed increase in the risk of metastasis for tumors greater than 2.0cm. The accepted treatment of such tumors is a right hemicolectomy.

The Influence of Sociodemographic Factors and Hygiene Practices on the Prevalence of *Helicobacter Pylori* Infection Among Malay Patients Undergoing OGDS in Hospital Universiti Sains Malaysia

R A Wazi, Y Y Lee, M Nazri, Y N Azwany, M K Imran, A M Noorizan, K E Choo

Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia

BACKGROUND

Helicobacter pylori (H. pylori) is strongly associated with peptic ulcer disease and gastric cancer. *H. pylori* prevalence however is low in the Malay-predominant state of Kelantan (Uyub *et al*, 1994)[1].

OBJECTIVES

The main objective of this study was to investigate environmental factors which may relate to the prevalence of *H. pylori* infection among Malay Kelantanese patients who underwent OGDS in Hospital University Sains Malaysia. The secondary objectives of this study were to compare socio-demographic and socio-cultural practice differences between those infected and non-infected with *H. pylori.*

MATERIALS AND METHODS

A case-control study was designed, where Malay patients with or without *H. pylori* were randomly identified from HUSM OGDS records (January 2000-December 2008). Patients who had the organism on histology were considered *H. pylori* positive cases. A 43-point, validated questionnaire was then administered during a face-to-face interview.

RESULTS

A total of 161 patients were included into this study. In the *H. pylori* positive group, there were 51 males (31.7%) and 28 females (17.4%). Median age was 52.8 (±12.5) years old. For the *H. pylori* negative group there were 40 (24.8%) males and 42 (26.1%) females. Median age was 52.8 (±14.8) years old. Using multiple logistic regression analysis, significant associated factors for positive *H. pylori* were an increased BMI (p=0.018, adjusted OR 1.17) and using pit latrine vs flush toilets (p=0.01, adjusted OR 4.63).

CONCLUSION

In this study, multivariate analysis showed that an increased BMI and type of toilet at home were found to be significant associated factors for infection with *H. pylori*.

REFERENCE

1. Uyub AM, Mahendra Raj S, Visvanathan R, Nazim M, Anuar AK, Mansur M. Helicobacter pylori infection in north-eastern Peninsular Malaysia. Evidence for unusually low prevalence. Scand J Gastroenterol 1994; 29; 209-13.

Management of Digestive System Carcinoid Tumour

P Selvindoss

Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

Carcinoid tumors are rare, most of the publications are case reports and the clinical series are uncommon. The quality of life and survival time of these patients depend on the adequate control of tumor growth and good palliation of their symptoms.

OBJECTIVES

The purpose of this study is to review epidemiological data and forms of management for these tumors in Hospital Tuanku Ja'faar over the last eight years.

MATERIALS AND METHODS

A retrospective review of the clinical records of patients diagnosed and treated with carcinoid tumors from 2001 till 2008 was performed.

RESULTS

There were a total of ten patients with carcinoid tumours which were all in the gastrointestinal tract. The majority of the lesions were in the appendix (total of six). There were two rectal carcinoid and two carcinoid tumours of the stomach. All the appendix carcinoid were incidental findings after appendicectomy. One of the rectal carcinoids was a polyp (0.6cm) and the other was a rectal tumour which on histopathology was found to be rectal carcinoid tumour. The patient with the rectal polyp had a polypectomy done and the patient with rectal tumour had an anterior resetion done. One gastric carcinoid patient had total gastrectomy. One gastric carcinoid tumour patient had a metastatic nodule in the omentum. The rest of the carcinoid tumours of the digestive did not have metastatic disease.

CONCLUSION

Carcinoid tumors are rare, and have a slow growth and less aggressive biological nature than noncarcinoid tumors. Treatment should be focused on trying to cure the small or localized lesions or to find the best palliative method for those symptomatic advanced lesions.

Value of Barium Enema in the Assessment of Colorectal Symptoms

H A Mahendran, Z Jasiah, P Selvindoss

Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

Colonoscopy has largely replaced barium enema is the investigation of choice in the assessment of colorectal symptoms. However, barium enemas are still requested and remain useful especially when colonoscopy is not feasible.

OBJECTIVES

To review barium enemas performed at our institution over a 13-month time period.

MATERIALS AND METHODS

A retrospective review of all patients who underwent barium enema from June 2008 until June 2009 was performed. Details as to whether colonoscopy was performed prior to the barium enema, indications for the study and results of the study were reviewed.

RESULTS

A total of 37 barium enemas were performed. Constipation was the most common indication (29 cases; 78%) and majority of the patients were older than 55 years (58%). Most of these patients had already undergone colonoscopy prior to the barium enema study (except for 2 patients who declined colonoscopy). All patients who underwent colonoscopy however, had incomplete colonoscopy due to technical difficulties such as looping. In 15 patients, colonoscopy was successful only until the hepatic flexure, 10 until the splenic flexure while 5 only until the sigmoid colon. Barium enema was normal in 35 patients (94.6%) but in two patients, revealed pathologies missed initially by colonoscopy. one patient had a polyp while another patient had rectosigmoid tumour. Repeat colonoscopy later confirmed these findings.

CONCLUSION

While colonoscopy is the gold standard in assessing the colon and rectum, barium enema remains important in the assessment of colorectal symptoms especially if that make colonoscopic assessment was difficult or incomplete due to looping or other reasons.

High Success in the Treatment of Refractory *Helicobacter Pylori* Infection Using Two Sequential Rescue Therapies

M M Jeeta, C S Qua, K L Goh

Division of Gastroenterology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

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

OBJECTIVES

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

MATERIALS AND METHODS

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

RESULTS

Of 126 patients who received treatment with the high dose dual therapy (RA), 89- (ITT analysis-70.6% (95% CI:62.7-78.6) and per protocol analysis - 74% 95% CI: 66.3-82.0) had successful eradication. Six patients (three patients defaulted follow-up and three patients were non-compliant to medication because of side-effects and otherwise). Of the 31 patients who received the 2nd rescue (RAL) 28 patients-90.3% (95% CI: 74.2-98.0) had successful eradication. All patients were compliant with treatment and did not default follow-up.

Both treatments were highly tolerable with side–effects recorded in a minority of patients.

The cumulative eradication rate for both regimens were:
ITT -117/126-92.9%(95% CI:86.9-96.7) and
PP 117/120- 97.5%(95% CI 92.9-99.5)

CONCLUSION

Sequential rescue therapies with the above two regimens were very effective in eradicating refractory helicobacter pylori. They were highly tolerable and relatively inexpensive treatment.

ACKNOWLEDGEMENT

Eisai HHC Malaysia, Biochemie Malaysia, Dai-Ichi Tokyo, Japan for supplies of trial medications and MSGH for partial financial support.

Exploring the Effects of Visually Induced Motion Sickness Nausea on the Body and the Mind

K S Ng*, Y C Chua*, M Gresty, V F Ban*, U Marreddy*, S Williams***, G Barker***, P Andrews****, G Sanger*, A Wilson*, S Y Chey*, K Tachi*, Q Aziz***

*Wingate Institute of Neurogastroenterology, Centre for Gastroenterology, Barts and the London University, London E1 2AJ, United Kingdom, **Division of Neurosciences and Mental Health, Imperial College London, UK, ***Centre for Neuroimaging Sciences, Institute of Psychiatry, Kings College London, UK, ****Division of Basic Medical Sciences, St George's University of London, Cranmer Terrace, London, UK

BACKGROUND

Nausea is a common and complex multi-system subjective symptom. It is worsened by psychological stress and pain; and imposes a large burden on society with 8.5 million working days lost each year in Britain. Despite considerable research, knowledge regarding the neurophysiological basis for nausea and effective treatment for nausea remains elusive. Without a reliable animal model, there is an urgent need for a human model of nausea that will be addressed by this study.

MATERIALS AND METHODS

Two 10-minute videos were presented to 20 healthy volunteers (aged 20 to 49 years) with one being nauseogenic and another being neutral. We recorded the following: nausea symptoms (motion sickness assessment questionnaire, MSAQ); Spielberger state anxiety inventory (STAI); electrodermal activity (EDA); four-channel electrogastrogram (EGG); cardiac sympathetic and parasympathetic activity (e.g. cardiac sympathetic activity (CSI), heart rate (HR), mean blood pressure (MBP), cardiac vagal tone (CVT) and cardiac sensitivity to baroreceptor reflex (CSB) with Neuroscope™); personality traits (big five inventory, BFI); motion sickness susceptibility questionnaire (MSSQ).

RESULTS

All 20 subjects completed the study with no vomiting and no excessive nausea reported. The nausea video was effective in inducing nausea compared to the neutral video with increased subjective reports of nausea (MSAQ, +196% ± 55, $p<0.01$) and anxiety (STAI, +20% ± 7, $p<0.01$). During nausea video compared to neutral video, objective physiological biomarkers show increased cardiac sympathetic activity (HR +6% ± 2,$p<0.01$; MBP +7% ± 2, $p<0.01$; CSI +18% ± 8,$p<0.01$) and decreased parasympathetic activity (CSB -11% ± 6,$p<0.01$ but with no significant CVT changes). Further cardiac beat-to-beat analysis of the autonomic data during nausea video for nausea susceptible subjects reveal initial fluctuations of the cardiac autonomic values (possibly adaptation processes) with progressive increase in sympathetic measures and progressive decrease in parasympathetic measures (especially CVT). The same changes are not demonstrated by nausea resistant subjects or by all subjects during neutral video. Other measures analysed didn't show statistically significant changes. All results are expressed in percentage change and standard error of mean.

DISCUSSION AND CONCLUSION

We have identified potential neurophysiological biomarkers that may help to predict nausea susceptibility, with CVT possibly being a risk factor for nausea when detailed beat-to-beat cardiac monitoring (not available previously) was used. Further work is needed to investigate the robustness of these biomarkers of for susceptibility to nausea. The nausea paradigm used can be adapted for more detailed studies using functional magnetic resonance imaging as a biomarker.

Psychophysiological Influences on Perception of Meal Sensations During Stress

U Marreddy*, K S Ng*, V F Ban*, G Syed*, J Jafari*, S Coen*, Q Aziz*

Wingate Institute of Neurogastroenterology, Centre for Gastroenterology, Barts and the London University, London E1 2AJ, United Kingdom

BACKGROUND

The ingestion of nutrients gives rise to satiation signals from the stomach. It is known that healthy individuals undergoing experimentally induced stress have heightened meal sensations. Stress-mediated gut hyper-sensation may account for the symptom burden of functional dyspeptic patients and may also mediate the anxiety-induced anorexia in these patients. There is currently a paucity of knowledge regarding the mechanisms involved in stress-induced altered meal sensations, and our study attempts to address that.

MATERIALS AND METHODS

A 10 minute nutrient challenge (50ml/min) was undertaken twice by 10 healthy volunteers (aged 26 ± 4 years) with concurrent non stressful conditions and stressful conditions (by the threat of an impending painful electrical shock potentiated with visual and auditory cues). We recorded the following: personality traits (big five inventory, BFI); epigastric symptoms (visual-analogue-scales, VAS); anxiety ratings (VAS); galvanic skin response (GSR); cardiac sympathetic and parasympathetic activity (e.g. cardiac sympathetic activity (CSI), heart rate, blood pressure, , cardiac vagal tone (CVT) and cardiac sensitivity to baroreceptor reflex (CSB) with Neuroscope, Julu 1992).

RESULTS

All volunteers completed both neutral and stressful experiments with induction of stress confirmed by anxiety ratings in comparison with neutral studies (6.5 ± 1.9 vs. 2.6 ± 1.2; $P < 0.02$). In stress, epigastric symptom scores were higher for discomfort ($p = 0.052$) and bloating ($p < 0.02$), with a trend towards higher scores for fullness, satiety and belching. Sympathetic activity was also higher during stress-induction compared to neutral (CSI $p<0.05$; GSR $p<0.01$). In addition, there was a weak trend for subjects with higher neurotic traits to increase their vagal tone while those scoring higher in other traits withdrew their vagal tone during stress compared to while at rest.

DISCUSSION AND CONCLUSION

This study suggests that the brain influences nutrient sensations through the efferent activity of the autonomic nervous system, which in turn might modulate the afferent signaling from the gastrointestinal tract.

D2 Gastrectomy – The Gold Standard for Locally Advanced Gastric Cancer

H A Mahendran*, P Kandasami, G Ramesh***

*Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia, ** International Medical University (IMU), Seremban, Negeri Sembilan, Malaysia

BACKGROUND

This is a retrospective review of 26 gastric cancer patients who underwent surgical intervention at Hospital Tuanku Ja'afar Seremban.

MATERIALS AND METHODS

The patients were identified from the Computerised Operating Theater Documentation System (COTDS) and their case notes were reviewed retrospectively.

RESULTS

The racial distribution of the 26 patients reviewed, 17 patients were Chinese, 5 were Indian, 3 were Malay and one patient was of Eurasian descent. The youngest patient in this series was 26 years old, the oldest patient was 73 and the mean age was 54. Fifty percent of the patients (13 patients) had tumours arising from the antrum while 26 percent (7 patients) had tumours arising from the cardioesophageal junction. In this series, 8 patients (30%) were staged as T3N1M0 during laparoscopic staging. A total of 12 patients (46%) underwent D2 potentially curative gastrectomies. Eight patients underwent D1 gastrectomy while 6 patients underwent palliative procedure based on their staging. The mean number of lymph nodes removed via D2 gastrectomy was 25 as compared to 10 via D1 gastrectomy.

CONCLUSION

Majority of patients present with locally advanced disease. Laparoscopic staging is essential to avoid unnecessary laparotomy in patients with unresectable disease. D2 gastrectomy offers the best chance of cure as it has a higher mean lymph node retrieval compared to D1 gastrectomy. As such, it should be the gold standard in the management of gastric cancer.

Protean Manifestations of Erosive Reflux Disease

S H Ho, J L Hartono, C S Qua, C H Wong, K L Goh

Division of Gastroenterology and Hepatology, University Malaya Medical Centre, Kuala Lumpur, Malaysia

BACKGROUND

Reflux esophagitis (RE), the hallmark of endoscopic diagnosis of Gastroesophageal Reflux Disease (GERD), has been assumed to be associated with classical symptoms of GERD - heartburn and acid regurgitation. This study sets out to determine the proportion of patients with heartburn and acid regurgitation as well as other gastrointestinal and extragastrointestinal symptoms in patients with reflux esophagitis.

OBJECTIVE

To determine the proportion of patients with heartburn, acid regurgitation, and other non classical gastrointestinal and extragastrointestinal symptoms in patients with reflux esophagitis

MATERIALS AND METHODS

Consecutive patients who were diagnosed to have erosive esophagitis based on the Los Angeles classification were recruited for the study. Patients were carefully interviewed with regards to frequency and severity for a whole range of gastrointestinal and extragastrointestinal symptoms. Prominent symptom(s) were identified when an intensity of at least moderate and frequency of at least once per week were reported.

RESULTS

One hundred and eleven RE patients were recruited; grade A 88/111 (79.3%), grade B 16/111 (14.4%), grade C 5/111 (4.5%), grade D 2/111 (1.8%). Five patients (4.5%) did not have any prominent symptoms. Seventy five (67.6%) patients had heartburn and/or acid regurgitation. Only 5 (4.5%) subjects had classical reflux symptoms as their sole symptoms and the remainder (101/111, 91.0%) had other prominent gastrointestinal and extragastrointestinal symptoms.

Classical reflux symptoms frequently had concomitant non-classical symptoms (70/111, 63.1%) and among these, upper gastrointestinal symptoms were the most common (67/70, 95.7%) such epigastric pain, burning/acid feeling in the stomach, abdominal discomfort, bloating, belching, and nausea/vomiting. Concomitant non-classical esophageal symptoms such as dysphagia, chest discomfort, and globus were present in 16/70 (22.9%); whereas concomitant lower gastrointestinal symptoms such as diarrhea, constipation, and excessive flatus were present in 19/70 (27.1%). Concomitant extragastrointestinal symptoms such as hoarse voice, sore throat, chronic cough, wheezing, and sleep problems were found in 25/70 (35.7%). The presence of more than one concomitant non-classical symptoms were 59/70 (84.3%), more than two were 45/70 (64.3%), and more than four were 30/70 (42.8%).

The most common non-classical symptoms were bloating (72/111, 64.9%), followed by belching (60/111, 54.1%), and epigastric pain (36/111, 32.4%). Of note, a significant number of patients (31/111, 27.9%) had no classical reflux symptoms but had non-classical symptoms instead.

CONCLUSION

RE patients frequently had multiple symptoms. The classical reflux symptoms among Malaysian population were not as common as we thought. Instead, non-classical symptoms were very common.

Diagnostic Evaluation of Lower Gastro-Intestinal Bleed by Colonoscopy

V E Tiong, P Selvindoss, S Gopeeshnan, N Nazeerah, Nurdillah, C T Nahzliya

Department of Surgery, Hospital Tuanku Ja'afar, Seremban, Negeri Sembilan, Malaysia

BACKGROUND

Per rectal bleeding is a symptom of lower gastro-intestinal bleed. The stability of the patient and the rate of bleeding dictate the order in which various diagnostic procedures should be conducted. The commonest cause of lower GI bleed in Western literature is diverticular disease, followed by inflammatory bowel disease and benign anorectal conditions e.g. haemorrhoids. The aim of this study is to determine the demographics and aetiology of lower GI bleed in our local setting.

MATERIALS AND METHODS

This retrospective study includes a total of 82 patients who presented with per rectal bleed. All patients underwent flexible colonoscopy after appropriate resuscitation and preparation.

RESULTS

Eighty-two patients (42 male and 40 female) with median age of 55 years were in the study. Colonoscopy showed abnormal results in 93.9% of patients. The most common finding were haemorrhoids (31.7%), followed by polyps (22%), colitis (11%) and tumours (9.8%). Other less common results were rectal ulcers (6.1%), diverticular disease (4.9%) and angiodysplasia (2.4%).

CONCLUSION

As an initial diagnostic test, colonoscopy has a high diagnostic yield. This study suggests the frequency of causes of lower GI bleed in the local setting to be different from those in the reported Western literature.

Knowledge of Colorectal Cancer in the Malaysian Population

H Ida, J L Hartono, K L Goh

Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Colorectal cancer (CRC) is one of the commonest solid organ malignancies in Malaysia and most present in the late stages of the disease. Therefore, public awareness is essential in improving the outcome of this condition through screening and early detection.

OBJECTIVES

To assess public knowledge of CRC and CRC screening in an urban area in Malaysia and identify factors associated with limited knowledge.

MATERIALS AND METHODS

This was a prospective study where relatives and friends accompanying patients in non gastroenterology outpatient clinics in the University of Malaya Medical Centre, Kuala Lumpur recruited. Subjects were interviewed using a standardized questionnaire which was formulated for the Asia Pacific Colorectal Cancer Working Group.

For knowledge of CRC, the answers had to be given spontaneously by the subjects without prompting. A score of one was given for correctly identifying a symptom or risk factor for CRC; poor knowledge was identified as a score of 0-2, moderate knowledge 3-5 and good knowledge ≥ 6. For knowledge of CRC screening, the available tests were read out and the subjects were asked whether or not they were aware of each test. A score of one was given for each known test, poor knowledge was identified as 0, moderate knowledge 1-2 and good knowledge ≥3.

RESULTS

Nine hundred and ninety one subjects were recruited. Baseline demography was as follows: Male 459(46.3%), Female 532(53.7%); Malays 403 (40.7%), Chinese 315(31.8%), Indian 273 (27.5%); mean age was 43.5 ± 5.3.

From our study, 414(41.8%) could not identify any of the symptoms and 500(50.5%) could not identify any of the risk factors for CRC. Knowledge of CRC was poor in 669(67.5%), moderate in 272(27.4%) and good in 50(5%). Factors associated with poor knowledge on multivariate analysis include Chinese race (Chinese vs Indian $p<0.001$, Chinese vs Malay $p<0.001$) and low education level ($p<0.001$).

In terms of CRC screening, 646(65.2%) were not aware of any available screening tests for CRC. Knowledge of CRC screening was poor in 646(65.2%), moderate in 298(30.1%) and good in 47(4.7%). Factors associated with poor knowledge of CRC screening on multivariate analysis were male gender ($p=0.001$), age less than 45 years ($P<0.001$), Chinese race (Chinese vs Indians $p<0.001$, Chinese vs Malays $p<0.001$) and low education level. ($p=0.013$).

CONCLUSION

Knowledge of CRC and CRC screening is low in the Malaysian population. Targeted educational programs should be carried out in order to increase the general awareness of this medically important condition.

Attitude Towards Colorectal Screening in the Malaysian Population

H Ida, J L Hartono, K L Goh

Department of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Colorectal cancer (CRC) screening is well established in the West but not in Asian countries including Malaysia. However, prior to introducing such a program, it is important to taken into account the attitudes and perception of the target population.

OBJECTIVE

To examine the willingness of the Malaysian population to undergo CRC screening.

MATERIALS AND METHODS

This was a prospective study where relatives and friends accompanying patients in non gastroenterology outpatient clinics in the University of Malaya Medical Centre, Kuala Lumpur recruited. Subjects were interviewed using a standardized questionnaire which was formulated for the Asia Pacific Colorectal Cancer Working Group. (Sung et al) Assessment of knowledge of CRC and CRC screening is described in a related study.* The subjects' willingness to undergo screening was documented and factors associated with reluctance towards CRC screening were identified.

RESULTS

Nine hundred and ninety nine subjects were recruited.

Baseline demography was as follows: Male 459 (46.3%), Female 532(53.7%); Malays 403(40.7%), Chinese 315(31.8%), Indian 273(27.5%); mean age was 43.5 ± 5.3.

Knowledge of CRC was poor in 669 (67.5%), moderate in 272(27.4%) and good in 50(5%). In terms of need for CRC screening in patients over 50, 491(49.5%) felt that there was great or some need and 389 (39.3%) felt that there was little or no need 111 (11.2%) were not sure. In terms of personal willingness to undergo screening, 384(38.7%) were agreeable to CRC screening if it were free and 607(61.3%) were reluctant to undergo screening.

Factors associated with reluctance to undergo CRC screening on multivariate analysis were as follows; poor knowledge of CRC ($p<0.001$), poor knowledge of CRC screening ($p<0.001$), Chinese race (Chinese vs Malays $p<0.001$, Chinese vs Indians $p<0.001$) and positive family history of CRC ($p=0.045$). Education level, age and gender were not found to be statistically significant factors on multivariate analysis.

CONCLUSION

At present, it appears that the majority of Malaysians are not keen for CRC screening. Limited knowledge of CRC and CRC screening is a major barrier that needs to be overcome in order to establish a successful screening program in this country.

Immunohistochemical Detection of DNA Mismatch Repair (MMR) Genes Proteins in Colorectal Carcinoma

K Gurjeet*, B P Ooi, N M Nik Raihan**, M Radzi**, W K Wan Khamizar**, S Subathra***, S K Lee***, Y A Badrul Hisham*****

*Advanced Medical and Dental Institute, USM, Penang, Malaysia **Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia ***Hospital Pulau Pinang, Penang, Malaysia

BACKGROUND

DNA mismatch repair gene abnormalities are seen in 95% of hereditary nonpolyposis colorectal cancer (HNPCC) and 10-15% of sporadic colorectal cancers. Immunohistochemistry provides a simple, cost-effective, sensitive and specific method for screening of DNA mismatch repair defects. This study aimed to determine the frequency of abnormal MMR gene protein expression in colorectal carcinoma tissue using immunohistochemistry.

MATERIALS AND METHODS

Clinicopathological information was obtained from pathology records of 148 patients who underwent bowel resection for colorectal carcinoma (CRC). Immunohistochemistry for MLH1, MSH2, MSH6 and PMS2 proteins were performed on paraffin embedded tissue containing carcinoma. Normal colon was used as positive control. CRC was considered to have protein inactivation when there was complete absence of nuclear staining in tumour cells. Chi square or Fisher's Exact test was used to determine the association of MMR gene expression abnormality and clinicopathological variables.

RESULTS

A total of 148 subjects and 150 colorectal carcinomas were assessed. Three patients had synchronous tumours. Majority of patients were above 50 years old (78.4%). Rectum was the most common cancer location (46.7%). Twenty eight cancers from 26 subjects had absent immunohistochemical expression of any one of the MMR gene proteins. This comprised absent MLH1 only – 3 cancers, absent MSH2 only – 3, absent MSH6 only – 2, absent PMS2 only – 3, absent MLH1 and PMS2 – 14, absent MSH2 and MSH6 – 2 and absent MLH1, MSH6 and PMS2 – 1. Two of three patients with synchronous cancers showed abnormal MMR gene protein expression. There was significant association between abnormal MMR gene protein expression and proximal colon cancers, mucinous, signet ring and poorly differentiated morphology. It was not associated with patient age, gender, or cancer stage.

DISCUSSION AND CONCLUSION

Cancers with abnormal MMR gene expression were associated with microsatellite instability-high (MSI-H) phenotype. The study sample comprised both sporadic and hereditary CRC. Three subjects had isolated absent MLH1 expression, a characteristic of sporadic CRC. Twenty three subjects (15.5%) demonstrated absent MSH2, MSH6 and PMS2 protein expression in isolation or in combination with other MMR genes, which often predicts a germline mutation, synonymous with a diagnosis of HNPCC. This is a high frequency compared to literature. However age at onset of CRC, family history and tumour morphology are important data to aid in distinguishing sporadic CRC and HNPCC. Immunohistochemistry is useful in screening patients at risk for HNPCC. It reveals which particular MMR gene may be defective, therefore enables more efficient mutation analysis.

Seroprevalence Study of HCV Genotypes in Two Tertiary Hospitals and its Association with Risk Factors and Current Management Practice

M H Hadzri*, A H Hairul, M I A Mustafa**, H Y Azril*****

*Department of Internal Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia
**Department of Basic Medical Sciences, International Islamic University Malaysia, Kuantan, Pahang, Malaysia ***Gastroenterology and Endoscopy Unit, Medical Department, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu, Malaysia

BACKGROUND

The distribution of hepatitis C virus (HCV) genotypes is well documented in many countries. However, reliable data are still lacking with respect to the frequency of the different HCV genotypes in Malaysia. This study aim to identify HCV genotypes and associated risk factors in a group of HCV infected patients from two tertiary hospitals.

MATERIALS AND METHODS

This is a seroprevalence study of HCV genotypes amongst infected patients in Hospital Tengku Ampuan Afzan, Kuantan, Pahang and Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu. Patients were screened using ELISA by detecting the anti-HCV in the sera. All negative first-round PCR products were re-tested by nested PCR. The base sequence of the PCR products was determined using the same primers as for the RT-PCR. By comparing the obtained nucleotide sequence data with sequences of known genotypes from the NCBI homepage, we deduced that our local isolates could be assigned to genotypes 1, 3, 4 and 6. We correlated the mode of transmission, basic demographic characteristics and current treatment strategy with the predominance of different genotypes.

RESULTS

Out of 171 patients diagnosed positive for anti-HCV by ELISA, 65 patients agreed for HCV genotypes evaluation. 32.3% (n=21) were of genotype 1, 58.5% (n=38) genotype 3, 6.1% (n=4) genotype 4 and 3.1% (n=2) genotype 6. There was no statistically significant difference between the risk factors analyzed and the acquisition of HCV infection. We also found out that only 53.8% (n=35) of these patients were treated and 27.8% (n=18) had liver biopsy. Interestingly we noted that out of four patients with genotype 4, one of them was an Egyptian and another two had exposure to risk factors on their travel to the Middle East countries.

CONCLUSION

Genotype 3 and 1 were the most prevalent genotypes (58.5% and 32.3% respectively) followed by genotype 1 and 6. Our study results are consistent with an unpublished data from the Malaysian Society of Gastroenterology and Hepatology [Genotype 3 (56%), genotype 1(39%)].

Is Persistent Normal Alanine Transaminases in HCV RNA Positive Chronic Hepatitis C A Benign Disease?

K K Kiew*, K L Chin*, A Saravanan*, Nik Raihan, M Radzi***

*Gastroenterology Unit, Department of Medicine, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia
*Department of Pathology, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia

BACKGROUND
Previous study has shown that a quarter of patient with hepatitis C will have persistent normal alanine transaminases (ALT) and they may run a benign course.

OBJECTIVE
To compare the proportion of patient fulfilled HPE criteria for hepatitis C treatment criteria in patients with positive HCV RNA on qualitative test with normal and raised ALT.

MATERIALS AND METHODS
This is a retrospective study; Patients with hepatitis C who had biopsy done between July 2008 and June 2009 were included in this study.

RESULTS
Forty-four patients with hepatitis C have liver biopsy during the period of this study. Out of this, 11(25%) patients have persistent normal ALT for past 6 months prior to liver biopsy; defines as ALT less than 41 U/L. 29 (65.9%) patients have raised ALT; and in 4 (9.1%) patients, serial ALT not available. Five patients (45.5%) in the normal ALT group have significant liver disease fulfilled criteria for treatment based on HPE whereas 22 (75.9%) of the raised ALT group fulfilled this criteria. The difference between the two groups is not statically significant, p- value 0.067.

CONCLUSION
45% of hepatitis C patient with persistently normal ALT will have liver damage that fulfilled treatment criteria on guideline for hepatitis C treatment. From our study, we suggest that all hepatitis C patients with detectable HCVRNA should have liver biopsy disregard for their ALT if there is desire to delay their therapy. This study did not show statically significant liver disease between normal ALT and raised ALT group.

National Cancer Patient Registry-Colorectal Cancer

M Radzi*, W Lim, W Khamizar**, N Raihan**, O Zabedah***, H Jamaiyah******

*Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia **Prince Court Medical Centre, Kuala Lumpur, Malaysia ***Hospital Kuala Lumpur, Kuala Lumpur, Malaysia ****Clinical Research Centre, Kuala Lumpur, Malaysia

BACKGROUND

Colorectal cancer is emerging as one of the commonest cancers in Malaysia. The National Cancer Patient Registry (NCPR-Colorectal Cancer) is the first registry that assists the Ministry of Health to comprehensively report on various aspects of colorectal cancer in Malaysia. The data that include demographic details, pathology and treatment outcomes are needed to support policy and clinical decision-making in improving provision and delivery of services as well as access to treatment in this country.

MATERIALS AND METHODS

The registry recruits all histologically verified colorectal cancer cases from 10 hospitals. The data is stored on a customized web-based case report form. Data collection is ongoing. Current results presented are from October 2007 to May 2009.

RESULTS

Until 6 May 2009, a total of 708 cases of colorectal cancers were reported in our database. The Malays had the highest number (41%) of colorectal cancers followed by Chinese and Indians. The most cases were recorded for the ≥70 years age group, with more than half of total cases aged 60 and above. More males were recorded compared to females. Common primary cancer sites are the rectum, sigmoid colon and rectosigmoid. Malays and Chinese formed the majority of cases in the registry.

CONCLUSION

While the registry has yet to obtain full representation from the Malaysian population, it is hoped that this registry will assist in efforts to reduce the disease burden of colorectal cancer by providing an invaluable repository of data for assessments of colorectal cancer management in Malaysia.

Clinical Features Among Study Population of Colorectal Cancers in Malaysia

M Radzi*, W Lim, W Khamizar*, N Raihan*, O Zabedah***, H Jamaiyah******

*Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia **Prince Court Medical Centre, Kuala Lumpur, Malaysia ***Hospital Kuala Lumpur, Kuala Lumpur, Malaysia ****Clinical Research Centre, Kuala Lumpur, Malaysia

BACKGROUND

Cancer of the large bowel is the commonest cancer among males and 3rd commonest among females in Malaysia. Recognizing early signs and symptoms of colorectal cancer is important as most early detected cases, with no metastasis, are successfully treated. The prognosis for patients diagnosed at an early stage is much better than for those presenting with extensive disease. Thus, it is important that we have an overview of the cases' presentation pathway, symptoms, and associated medical history in our country to enable us to determine the areas that need improvement.

MATERIALS AND METHODS

Data was obtained from the NCPR-Colorectal Cancer. The registry recruits all histologically verified colorectal cancer cases from 10 hospitals (source data providers). Current results presented are from October 2007 to April 2009.

RESULTS

708 cases of colorectal cancers were obtained from the registry. 91.5% of cases presented symptomatically compared to only 0.7% from primary screening. The most commonly reported symptom was diarrhea, constipation or other change in bowel habit. Polyps were present in 105 cases. Of these cases, 92.4% were present polyps. History of Familial Adenomatous Polyposis and Ulcerative Colitis were reported in 2 and 5 cases respectively. Only 5.7% of colorectal cancer cases had a history of cancer compared to 79.9% who had no previous history of cancer. Distant metastasis was detected in 32% of CT scans performed.

CONCLUSION

Majority of cases were symptomatic; very few were from screening. Very few cases had other medical conditions in their history. A high percentage that had present polyps had cancer. A majority of cases had no history of cancer. It is hoped that these results will prompt further research in the areas of early detection, effective screening, patient education and awareness of colorectal cancer among our population in Malaysia.

Clinicopathological Features in Colorectal Cancer Patients

N Raihan*, M Radzi*, W Lim, W Khamizar*, K Gurjeet***, H Jamaiyah******

*Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia **Prince Court Medical Centre, Kuala Lumpur, Malaysia ***Institut Perubatan dan Pergigian Termaju, Pulau Pinang, Malaysia ****Clinical Research Centre, Kuala Lumpur, Malaysia

BACKGROUND

Colorectal cancer is an excellent example of a cancer where outcome can be, and has been, improved by the co-operation of clinicians and pathologists. The most powerful tool for assessing prognosis following potentially curative surgery is pathologic analysis of the resected specimen.

OBJECTIVE

To determine the clinicopathological features in colorectal cancer patients.

MATERIALS AND METHODS

Data were gathered from NCPR-Colorectal Cancer that involves 10 source data providers. A total of 440 records from resected and polypectomy specimens were analysed (from October 2007-April 2009).

RESULTS

Most colorectal cancers were left sided tumours. The majority were moderately differentiated adenocarcinoma of the usual type. Twenty-two percent of colorectal cancers showed presence of polyp(s) in the background. Extramural venous invasion, which is an adverse prognostic factor, was seen in 23.3% of cases. Infiltrative tumor margin, also a negative prognostic factor, was observed in 72% of cases. Only 12.9% of cases (49/379) had tumours confined to the bowel wall, suggesting that the majority had either presented late or had more aggressive tumours. Nonperitonealised margin was involved in 21% and 17.4% of rectal and colonic cancer cases, respectively.

CONCLUSION

The tumour site (predominantly left-sided) and type (mainly moderately differentiated adenoncarcinoma of usual-type) of the colorectal cancers conform to the findings of others world-wide. The majority of cases (87.1%) present later in the stage of the disease (pT3 or higher). Some may have had more aggressive tumours, with 23.3% had extramural invasion and 72% showed infiltrative tumour margin, both of which are negative prognostic factors. About one-fifth of the cases had concurrent polyp(s). A significant proportion had involvement of nonperitonealised margin, which may predict recurrence and survival, as well as indicate the quality of surgery performed.

Long Term Follow-up of Patients After Successful Eradication of *Helicobacter Pylori*

K L Goh, M M Jeeta, C S Qua, S C Chin

Division of Gastroenterology and Hepatology, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Helicobacter pylori reinfection in adulthood is thought to be uncommon. In an earlier study we had shown a zero re-infection rate following a 2 year follow-up*.

OBJECTIVE

To determine the rate of reinfection and recurrence of ulcers in patients who had undergone successful *H.pylori* eradication with a long follow-up period.

MATERIALS AND METHODS

Patients who had undergone successful H.pylori eradication previously confirmed on urease test, histology and culture were invited to return for a repeat gastroscopy and biopsies for *H.pylori* for urease test and histology. Two biopsies each were taken in a standard fashion from the gastric antrum and body. Patients were subjected to a questionnaire on the presence of upper gastrointestinal symptoms if any. Reflux symptoms were considered present if patients complained of more than weekly heartburn and /or acid regurgitation.

RESULTS

Thirty eight patients were reviewed: 32 originally had duodenal ulcers (DU) and 6- non-ulcer dyspepsia. The mean age was 63.2± 11.2 years of patients and the male: female ratio was 29:9. The median follow-up period of the study was 17.0 years (IQR (25%-75%): 14.0-17.0).

H.pylori status remained negative in 37 of 38 patients. Reinfection of *H.pylori* was therefore seen in only 1 (2.6%) of patients. Reoccurrence of duodenal ulcer was also seen in this patient. Relapse of DU was seen in 3.1% (1/32) of patients. Reflux esophagitis was noted in 2/38 patients (5.3%) and reflux symptoms in 3/38 patients (7.9%). 3/38 (7.9%) patients had non-specific gastric erosions.

CONCLUSION

H.pylori re-infection and recurrence of duodenal ulcers is uncommonly seen on long term follow-up following successful *H.pylori* eradication

** Goh KL, N Parasakthi, SC Peh. Reinfection and ulcer relapse in South-East Asian patients following successful Helicobacter pylori eradication: Results of a two year follow-up. European J Gastroenterol Hepatol 1996; 8:1157-60.*

Perianal Support: Non Pharmacological, Non Surgical Treatment and Prevention of Anal Fissure

S C Francis*, H H Chew, K T Gan****

*Colorectal Centre, Mount Elizabeth Medical Centre, Singapore **Klinik Bersatu Kulim, Kedah, Malaysia

BACKGROUND

Current treatments for anal fissure, pharmacological and surgical sphincterotomy are based on the spasm theory. This theory does not offer explanation to those anal fissure patient with hypotonic anal sphincter and the patients have to be excluded before carry out the gold standard treatment (lateral internal sphincterotomy LIS). Spasm theory alone fail to explain why majority of anal fissure located at 6 o'clock position. Anatomically perianal region is lack of support especially the posterior region which is maximally stretches during defecation. It is logical to aspect positive outcome by providing perianal support during defecation.

OBJECTIVE

To assess the therapeutic ability of posterior perianal support during defecation on anal fissure patients.

MATERIALS AND METHODS

Two clinically confirmed chronic anal fissure patients who were indicated for surgery were prescribed with a specially modified toilet seat with a projection from the rear site to provide mechanical support on posterior perianal region during defecation. These two patients were reviewed clinically. Another 27 patients with various symptoms related to chronic anal fissure and hemorrhoid also prescribed with the toilet seats and followed up with questionnaires at 0,2, 4 and 12 weeks after using the toilet seat.

RESULTS

The first two patients improved almost immediately, followed by recovery and symptom free for more than 2 years till today. And all the other 27 patients also significantly benefited. All the individual symptoms also significantly improved (eg; 12 of the 17 patients with anus pain reported symptom free by 12 weeks with remaining 5 reported reduction in pain). Average time taken for each defecation process also reduced to 6 minutes by 12 weeks compared to 14 minutes initially. Five out of six of them who was dependent on laxative totally stopped, with another one also report reduction in the laxative usage.

CONCLUSION

Posterior Perianal support has significant therapeutic role in treatment of posterior anal fissure and the associated problems.

Steatohepatitis in Chronic Hepatitis C (CHC)

K L Chin*, K K Kiew*, A Saravanan*, N Raihan, M Radzi***

*Gastroenterology Unit, Medical Department, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia
**Pathology Department, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia

BACKGROUND

Hepatitis C Virus (HCV) is associated with steatosis. It has been estimated that the incidence of steatosis is about 50% in hepatitis C, which is 2.5 times higher than general population. Many studies also demonstrate significant association between steatosis and fibrosis. Most of these studies were based on Western population. There is no local data looking into the incidence of steatosis in hepatitis C patient and its association with fibrosis.

OBJECTIVE

To look into the incidence of Steatosis in CHC patients and the severity of fibrosis.

MATERIALS AND METHODS

This is a retrospective study. Patient with CHC who had biopsy between July 2008 and June 2009 were included in this study.

RESULTS

Total of 33 patients were recruited. Their age range from 24 to 67 with a mean age of 44. There was male predominance of 63.6 %. The incidence of steatosis in the liver biopsy was 72.7% which is slightly higher than the Western study. 87.9% of biopsy was reported to have some degree of fibrosis. When the biopsies were separated to steatosis and non steatosis group, the non steatosis group had a slightly higher fibrosis score 5.75 compare to the steatosis group which was 5.67 ($p < 0.05$).

CONCLUSION

Our local studies seems to have a higher incidence of steatosis (72.7%) in the CHC patients compare to other studies. Our biopsies without steatosis actually had a slightly higher grade of fibrosis compare to the group with steatosis. This maybe due to small sample size. A bigger study involving multi centre throughout the whole country might be able to give us a clearer picture of our local patients.

Adult Intussusceptions: Vague Symptoms and Rare Differentials

S Sivaprakasam, C W Law, A C Roslani

Department of Surgery, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Adult intussusceptions are rare in comparison to children, accounting for 5% of the total incidence[1]. Coupled with non-specific presenting symptoms, diagnosis may be delayed or missed. A pathological leading point is present in 90% of cases[2], [3]. CT scans offer the best diagnostic accuracy preoperatively[4] and are superior in identifying a causal leading point[5]. We present two cases, which illustrate the presentation, aetiology, diagnosis and management of adult intussusception.

CASE PRESENTATIONS

Case 1

Mr.S (24 years) had multiple admissions with epigastric pain and diarrhoea over two months. Finally he was admitted with dehydration, epigastric pain and a tender mass in the right lower quadrant. An urgent CT scan demonstrated an ileo-colic intussusception. Laparotomy and small bowel resection was performed. The histology confirmed a Meckel's diverticulum measuring six cm containing ectopic pancreatic tissue as the lead point.

Case 2

Ms.F (38 years) presented with a three-week history of colicky abdominal pain. On examination, she had a non-tender right lower quadrant mass. A barium and CT scan showed a caecal / ascending colon mass suggestive of intussusception. Pre-operative colonoscopy showed a large smooth rounded mass in the caecum. Biopsies were benign. The patient underwent an extended right hemicolectomy. The histology showed large bowel intussusception with no malignancy but no specific lead point was identified.

CONCLUSION

Adult presentation is non-specific and a high index of suspicion is needed to avoid delayed or missed diagnosis. Predominantly malignant aetiology (65%)[6] mandates surgical exploration and avoidance of attempts at reduction[7] to prevent tumour dissemination or spillage from bowel perforation.

Adult Small Bowel Volvulus : A Diagnostic Dilemma

A C Roslani, N J Osman, C W Law

Department of General Surgery, University Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Volvulus results from abnormal twisting of a loop of bowel around the axis of its own mesentery, producing mechanical obstruction, vascular compromise, or both. Small bowel volvulus (SBV) is rare, accounting for only 3.5% to 6.2% of small bowel obstructions. However, there is regional variation, with an annual incidence of 1.7 to 5.7 per 100 000 in the West, compared with 24 to 60 per 100 000 in Africa or Asia.

The aetiology may be primary, as often seen in Africa and Asia, or secondary to bands, adhesions, Meckel's diverticulum, internal herniation, Ascariasis or pregnancy. SBV may occur at any age, with a male preponderance, but secondary volvulus is thought to be uncommon below the age of 40.

We present three cases which illustrate the diagnostic difficulties posed by this entity.

CASE PRESENTATIONS

Case 1

A 38 year-old Malay lady with previous gynaecologic surgery presented with acute severe epigastric pain associated with vomiting for one day. She was treated as acute pancreatitis for four days before she was referred to our facility. CT scan showed proximal small bowel dilatation. Laparotomy revealed SBV secondary to adhesions. Resection was not required after adhesiolysis and derotation.

Case 2

A 53 year-old Indonesian lady with previous gynaecologic surgery presented with acute severe generalized abdominal pain associated with vomiting. Initial diagnosis was urinary tract infection with uncontrolled diabetes, but symptoms progressed and she was referred to surgery. CT scan was suggestive of ischaemic bowel. Unfortunately, patient refused surgery initially, and laparotomy was only done on day two of admission. Findings were gangrenous SBV secondary to adhesion band. Resection with primary anastomosis was performed.

Case 3

A 25 year old Indian man presented with colicky abdominal pain. He was initially managed conservatively, but developed signs of peritonitis and was referred to our facility. Laparotomy showed internal herniation through a mesenteric defect and volvulus around this axis. Both the herniated and twisted segments were gangrenous and were resected with primary anastomosis.

Recovery for all three patients was uneventful.

DISCUSSION

Our cases illustrate the diagnostic dilemmas posed by the rarity and non-specific presentations of SBV.

Plain abdominal radiographs are unhelpful.

A 'corkscrew' or 'spiral' pattern on barium studies, a "barber pole" appearance on angiography, and a 'whirl' sign or 'peacock's tail' sign on CT or MRI scanning may suggest the diagnosis, but are not specific and decision-making is often clinical.

The outcome of SBV is dependent on the speed of diagnosis leading to surgical intervention, with mortality rates of 5.8% to 8% for non-gangrenous SBV increasing to 20% to 100% for gangrenous SBV.

CONCLUSION

Non-specific presentations and lack of definitive diagnostic investigations render small bowel volvulus a difficult diagnosis. A high index of suspicion and repeated clinical assessment are required to avoid delays in treatment and improve outcomes.

REFERENCES

1. *DEANS, O.I.a.G.T., Small bowel volvulus: a review J.R.Coll.Surg.Edinb, 1999; 44; 150-55.*

2. *Matthew A.Wert, M.C.M.D., MD, Small bowel volvulus: Time is of the essence. Surgical Rounds, 2007; 392-94.*

Audit on the Surgical Management of Fistula in Ano in the University of Malaya Medical Centre

H C Lim, C W Law, A C Roslani

Department of Surgery, University of Malaya Medical Centre, Kuala Lumpur, Malaysia

BACKGROUND

Fistula-in-ano(FIA) has been known as a common and troublesome pathology to both patients and physicians for a long time. Its treatment can be surgically challenging as it has to be balanced between healing, recurrence and incontinence. There are newer techniques employed in recent years to achieve good healing with low recurrence and incontinence post operatively. There has been evolving practice of FIA treatment in University of Malaya Medical Centre(UMMC) over the past few years. The aim of this audit was to review the practice and outcome of surgical management of FIA in UMMC

MATERIALS AND METHODS

All patients who underwent various types of surgery for FIA from 2005 to 2008 were audited retrospectively. The type of surgery performed for each patient was recorded. Specific end points studied included patient demographics, type of surgical procedure, healing and recurrence rates.

RESULTS

97 patients were assessed. Male to female ratio was 4:1. Ethnic distribution was as follows: Indian (39%), Malay (36%), Chinese (19%) and Others(6%). The most common surgeries done were fistulotomy, fistulectomy and cutting seton insertion. However, from the year 2007 onwards, we started to adopt newer techniques like endorectal advancement flap and ligation of intersphincteric fistulous track which have a fairly good healing rate with lower risk of incontinence post operatively.

The Influence of Diet on the Prevalence of *Helicobacter pylori* Infection Among Malay Patients Undergoing OGDS in Hospital Universiti Sains Malaysia

R A Wazi, Y Y Lee, M Nazri, Y N Azwany, M K Imran, A M Noorizan, K E Choo

Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia

BACKGROUND

Helicobacter pylori (*H. pylori*) is strongly associated with peptic ulcer disease and gastric cancer. *H. pylori* prevalence however is low in the Malay-predominant state of Kelantan (Uyub *et al*, 1994).

OBJECTIVES

The main objective of this study was to investigate environmental factors which may relate to the prevalence of *H. pylori* infection among Malay Kelantanese patients who underwent OGDS in Hospital University Sains Malaysia. The secondary objectives of this study were to compare behavioural and dietary differences between those infected and non-infected with *H. pylori* .

MATERIALS AND METHODS

Malay patients with or without *H. pylori* on histology were randomly identified from HUSM OGDS records (January 2000-December 2008). Patients were then contacted and included into this case-control study. A validated questionnaire which included 15 questions regarding diet and medicinal intake was then administered.

RESULTS

A total of 161 patients were included into this study. Multiple logistic regression analysis showed that patients who used traditional/complementary medicine ($p<0.01$, adjusted OR 0.29) or had frequent 'pegaga' ($p=0.02$, adjusted OR 0.32), 'budu' ($p=0.01$, adjusted OR 0.26) or tea ($p<0.01$, adjusted OR 0.03) intake were less likely to be infected with *H. pylori*. Frequent coffee intake was shown to highly increase the odds for infection ($p=0.02$, adjusted OR 3.45).

CONCLUSION

In this study multivariate analysis showed that the use of TCM as well as frequent intake of 'pegaga', 'budu' and tea were protective against *H. pylori* infection whereas frequent coffee intake increased the risk for infection.

Uyub AM, Mahendra Raj S, Visvanathan R, Nazim M, Anuar AK, Mansur M. *Helicobacter pylori* infection in north-eastern Peninsular Malaysia. Evidence for unusually low prevalence. Scand J Gastroenterol 1994; 29; 209-213

The Efficacy and Tolerability of Hepatitis C Treatment at a Tertiary Centre in Kuala Lumpur

R Hamizah, A S Anwar, H Aizan

Gastroenterology Unit, UKM Medical Centre, Kuala Lumpur, Malaysia

BACKGROUND

Chronic hepatitis C (HCV) infection is a major cause for liver cirrhosis, liver failure and hepatocellular carcinoma. The combination treatment of peginteferon alpha plus ribavirin improves hepatic markers resulting in 50% - 70% of patients achieving successful viral eradication at the end of treatment. However, a significant number of patients either fail to complete treatment, become non-responders or relapse upon discontinuation of treatment.

OBJECTIVE

To assess the efficacy and tolerability of combination therapy using peginteferon-alpha 2a (Pegasys) and ribavirin (RBV) in HCV patients and to determine the factors associated with unsuccessful HCV eradication.

MATERIALS AND METHODS

We performed a retrospective analysis of all chronic HCV patients who were treated with peginteferon-alpha 2a (Pegasys) and RBV from January 2006 till December 2007. Patient demographics, genotype, sustained virological response (SVR), adherence, discontinuation of treatment and adverse events were analyzed.

RESULTS

A total of 23 patients were treated. Sixteen (69.6%) male patients and seven (30.4%) female patients between the ages of 20- 66 years (mean of 41.5) were included. There were eleven (47.8%) Malay and eleven (47.8%) Chinese patients and one (4.3%) Indian patient. Five patients had genotype 1 and eighteen had genotype 3. For genotype 1, all patients completed treatment, 75% achieved SVR and 25% relapsed; 1 patient defaulted follow-up and 1 patient died after completion of treatment due to hepatocellular carcinoma. For genotype 3, 14 (77.8%) patients completed treatment, 72% achieved SVR and 4 (28.6%) patients relapsed; 3 (16.7%) patients discontinued treatment due to side effects and 1 (5.6%) patient defaulted follow up. The adherence rate (80/80/80) was 80%. The most common side effects for discontinuation of therapy were thrombocytopenia (8.7%) and depression (4.3%).

CONCLUSION

The combination therapy of peginteferon-alpha 2a (Pegasys) and RBV in HCV patients achieve good SVR rates (>70%) with low discontinuation rates (< 20%).

Recurrent Pyogenic Cholangitits : When Endoscopic Intervention Fails

S Euh, H Y Chong, A C Roslani

Department of Surgery, University of Malaya, Kuala Lumpur, Malaysia

BACKGROUND

Recurrent pyogenic cholangitis (Oriental cholangiohepatitis) is characterized by formation of soft pigmented stones within dilated intra and extrahepatic ducts, which presents with recurrent exacerbation and remission of abdominal pain frequently associated with jaundice, chills, and fever. The disease is endemic to Southeast Asia, unlike gall stone disease in the West, and typically affects the younger age group of 20-/40 years. Therapeutic goals include complete removal of intrahepatic and extrahepatic stones, and the establishment of satisfactory drainage of the biliary tree, 2 and this is increasingly being achieved endoscopically. We present a case wherein the latter was not feasible.

CASE REPORT

A 25 year old male Myanmarese patient presented with abdominal pain, jaundice and fever of a few days. He had similar attacks previously in his original country. Clinically, he appeared to be malnourished, deeply icteric with a tender right hypochondrium. Routine blood investigations showed raised liver enzymes and bilirubin levels. Ultrasonography revealed dilated intra-hepatic and extra-hepatic biliary ducts containing multiple calculi. ERCP demonstrated similar findings; the calculi were deemed not amenable to endoscopic removal, and a temporary biliary stent was inserted. After a period of resuscitation, he underwent laparotomy, common bile duct exploration, removal of intrahepatic and extrahepatic calculi, and T-tube insertion. Recovery was uneventful.

CONCLUSION

Despite technological advances in endoscopy, surgery still has a role in the management of recurrent pyogenic cholangitis.

Review of Liver Abscess Cases in Kota Bharu, Kelantan

C H Nor Aizal*, H Mazlina, Y Y Lee*, M Nazri*, S Rosemi****

*Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia **Hospital Raja Perempuan Zainab, Kota Bharu, Kelantan, Malaysia

BACKGROUND

Liver abscess is one of the common causes of admission in Malaysia. We aimed to describe the clinical characteristics, length of hospital stay, antibiotics choice, treatment and intervention of patients with liver abscess in Kota Bharu, Kelantan.

RESULTS

A retrospective review of 52 cases of liver abscess in Hospital Raja Perempuan Zainab 2 and Hospital Universiti Sains Malaysia was done. Fifty males and 2 females were included. The mean age was 45.8 ± 12.7 years. The mean of total length of hospital stay was 12.5 days (range 2-24 days). The majority of the patients presented with fever (n=46, 88.5%) and abdominal pain (n=42, 80.7%). However, only 26.9% presented with jaundice (n=14). GI symptoms were present in only 11.5% (n=6) patients. On presentation, mean albumin 28.3 ± 6.8, ALT 78.4 ± 73.1, ALP 302.5 ± 266.1, bilirubin 54.1 ± 130, WCC 18.2 ± 7.8 and ESR 89.4 ± 37.7. Blood cultures were only done in 39 patients but negative in 92.3% cases. Only 3 (7.7%) were culture-positive. Amoebic serology, available in 26 patients, was positive in 21 patients but negative in 5 patients. The majority of patients were treated with combination of antibiotics. The main initial antibiotic choices include metronidazole (n=49, 94.2%), cefoperazone (n=24, 46.1%), and cefuroxime (n=18, 34.6%). Other antiobiotics that were used include augmentin, ceftazidime, ceftriaxone and ciprofloxacin. Thirty Four (65.4%) patients had documented fever during admission, and on average fever settled on day 4 (range 1-8 days). On ultrasound, 34 (65.4%) patients had single lesion and 18 (34.6%) patients had multiple lesions. Ultrasound-guided drainage was done in 25 (48.1%) patients. The usual indications were large liver abscess and unresolved fever. All except one patient was discharged well. One patient died due to sepsis.

CONCLUSION

It is a well known fact that blood cultures and amoebic serology help to guide the management of liver abscess. However, our review showed that this practice was not satisfactory in our hospital. Broad spectrum antibiotics were used in all cases and the outcome was good.

Preliminary Analysis of Upper Gastrointestinal Bleeding- Data from National Endoscopy Registry

A K Radhakrishnan, R Melvin, E T Ooi , S S Thein, A Saravanan

Gastroenterology Unit, Department of Medicine, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia

BACKGROUND

To ascertain the preliminary demographics and aetiology of upper gastrointestinal bleeders presenting to Malaysian public hospitals which are participating in the National Endoscopy Registry

MATERIALS AND METHODS

A retrospective analysis of patients presenting with upper gastrointestinal bleeding (UGIB) from 1st September 2008 to 30th May 2009. Data was extracted from the National Endoscopy Registry database.

RESULTS

A total of 1708 patients were enrolled- 64.1% (1095) males and 35.9% (613) females. Malays comprised 34.6% (597), Chinese 28.7% (493), Indians 6.6% (112), Indigenous people and other Malaysians 27.7% (472) while the remainder (34 patients) were either foreigners (29) or their identity could not be ascertained (5). Most patients were above 50 years old (1232 patients, 72.1%). The stomach was the site of lesion in 1148 patients, 690 patients had duodenal lesions and 507 patients had esophageal lesions. The majority of gastric lesions were due to ulcer disease (49.8%), gastritis (35.5%) and portal hypertensive gastropathy (5.9%) while duodenal ulcers (72.1%), duodenitis (31.3%) and erosions (9.7%) accounted for most of the duodenal pathology. Esophagitis (40%), varices (23.5%) and ulceration (10%) were the major lesions identified in the esophagus. A total of 233 (20.3%) lesions in the stomach and 43 (6.2%) in the duodenum were categorised as “others while 145 (28.6%) lesions in the esophagus were listed as “missing”.

CONCLUSION

The majority of UGIB patients were older males. The commonest source was the stomach. The commonest cause of gastric and duodenal bleeding was ulcer disease. In a proportion of patients, more than one lesion was identified. It is unlikely that some of these lesions (e.g gastritis) were directly related to UGIB. A significant portion of lesions in the stomach and esophagus were not adequately documented.

A Randomized Prospective Study to Investigate the Electrolyte Abnormalities Associated with Oral Sodium Phosphate for Bowel Preparation of Patients for Colonoscopy

E T Ooi*, H P Tee, J Menon****

*Kuala Lumpur Hospital, Kuala Lumpur, Malaysia **Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia

BACKGROUND

To study the electrolyte abnormalities associated with oral sodium phosphate. To look for risk factors associated with such electrolytes abnormalities. To compare the colon-cleansing efficacy of the studied regimes

MATERIALS AND METHODS

Patients using oral NaP for bowel preparation, from 1 July 2007 to 30 April 2008, at Queen Elizabeth Hospital were screen and randomized into 3 different regimes; 2 bottles of NaP 45 ml administered 6 hours (A), 12 hours (B) or 24 hours (C) apart in 1:1:1 ratio.
Results: 283 patients were randomized to Group A (110), Group B (114) and Group C (59). Randomization to group C was stopped during later part of the study due to logistic issue. Only 214 (A = 84, B = 91 and C = 39) patients were included in the final analysis. There were statistically significant changes in serum sodium (+1.7 mmol/L), potassium (- 0.189 mmol/L), calcium (- 0.12 mmol/L) and phosphate (+ 0.82 mmol/L) levels. No significant change was found in serum chloride and magnesium levels. There was no significant difference in the electrolytes abnormalities among the studied groups or by using different ages as cut off levels. Patients with creatinine > 100 umol/L have greater decrease in serum calcium levels after NaP (-0.21 mmol/L vs 0.09 mmol/L, p=0.021). Greater decrease in serum sodium levels was noted in patients with creatinine levels > 200 umol/L (-1.92 mmol/L vs + 1.97 mmol/L, p=0.027). Multiple linear regression study showed that creatinine level is a predictor of changes in serum sodium (p=0.027) and potassium (p=0.007) levels after NaP. The 6- (p=0.001) and 12-hour (p<0.001) NaP achieved better cleansing than 24-hour NaP.

CONCLUSION

Oral Na is associated with changes in the serum electrolytes (Na, K, Ca and Phosphate). Most abnormalities are clinically mild except for serum phosphate. Serum creatinine can be used as predictor of some of the electrolyte abnormalities.

Malaysian Gastro-Intestinal Registry (MGIR): Endoscopic Findings of Colonic Malignancy in Malaysia

G Henry*, W Khamizar, J Menon*****

*Hospital Selayang, Kuala Lumpur, Malaysia **Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia
***Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia

BACKGROUND

MGIR had recruited 3965 patients undergoing colonoscopy from six Hospitals in a period of 9 months. From this 259 (6.53%) patients were diagnosed to have colorectal carcinoma. 107 (41.31%) patients were Malay, 96 (37.07%) Chinese, 13 (5.02%) Indian while the rest belonged to other ethnic groups.

The most prevalent age group was 60-<70 (27.8%) followed by 50-<60 (23.1%) and 70-<80 (21.24). 118 (45.56%) were in the Rectum, 48 (18.53%) in Recto Sigmoid and 34 (13.13%) in the Sigmoid colon. The other data presented are the appearance of carcinoma, lumen, distance from anal verge and length of lesion.

Malaysian GI Registry: Epidemiology of *Helicobacter Pylori* Infection in Malaysia

E T Ooi*, R Melvin*, A K Radhakrishnan*, S S Thein*, A Saravanan*, V Shanthi**

*Department of Medicine, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia **Clinical Research Centre, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia

BACKGROUND

To study the epidemiology patterns of Helicobacter pylori in Malaysia.

MATERIALS AND METHODS

Six tertiary hospitals (5 from Peninsular Malaysia and 1 from Sabah) participated in the electronic data collection in the Malaysian GI Registry. Patients who had rapid urease tests done during their OGDS performed from September 2008 to May 2009 for various indications were analyzed. Statistical analysis was done using Chi-square test and odd ratio was calculated for various variables.

RESULTS

Rapid urease test for *H pylori* were available for 4277 patients. 53.6% were male patients. The overall positive result for *H pylori* was 17.2%. 17.9% of male patients had positive *H pylori* as compare to 16.4% of female. There was no significant difference of *H pylori* infection rate between male and female patients (p=0.20). Highest *H pylori* positivity (37.0%) was found in patients originated from East Malaysia, followed by Indians (20.4%), Chinese (15.0%) and Malays (6.8%). *H pylori* test was positive in 21.5% of foreigners. All other ethnic groups had significant higher odd of *H pylori* infection compare to Malays. [Chinese (p<0.001, OR=2.42), Indians (p<0.001, OR=3.50), other Malaysians (p<0.001, OR=8.03) and foreigners (p<0.001, OR=3.76)]. *H pylori* infection rates were increasing with age, 16.8% for those below 20 to the highest of 23.7% for those patients between 30 and 40. Subsequently the rates decrease progressively with age to the lowest of 7.2% for patients above 80. However, only patients more than 80 years old had statistically significant (compare to patients below 20 years old) lower *H pylori* infection rates; p<0.02, OR=0.38.

CONCLUSION

H pylori infection rate among Malaysians is low except for ethnic groups from Sabah. The infection rate is lower among younger age groups, though not statistically significant. These reflect the fact that *H pylori* are closely tied to socioeconomic conditions.
You may type over these instructions.

Malaysian GI Registry: Epidemiology and Endoscopic Characteristics of Patients with Dyspepsia

E T Ooi*, R Melvin*, A K Radhakrishnan*, S S Thein*, A Saravanan*, V Shanthi**

*Department of Medicine, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia **Clinical Research Centre, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia

BACKGROUND

To study the epidemiology and endoscopic findings of patients with dyspepsia in Malaysia. Endoscopic data from Malaysian GI Registry for patients with dyspepsia who had OGDS done from September 2008 to May 2009 were analyzed. Positive endoscopic findings were defined as any endoscopic abnormalities of upper GI tract reported.

RESULTS

2139 patients were indentified. 48.2% were male. 36.5% were Malays; Chinese 29.6%, Indian 15.7%, other Malaysian 16.0% and 2.0% foreigner. 58.7% of patients were >50 year-old, 38.2% between 20 and 50. 80.4% of patients had positive findings. There was significant chances of having positive findings among male patients ($p<0.001$, OR=2.04) and patients >50 year-old (vs age 20 to 50, $p<0.001$, OR=1.75). Indians has a highest rate of positive findings 81.9% and Malays has a lowest 78.4% positive finding rate ($p=0.49$). The top 3 findings were gastritis (62.0%), esophagitis (15.8%) and gastric ulcer (12.2%). 2.4% of patients had a malignancy (esophageal 11, gastric 41). Two patients age between 20 and 30 had a malignancy detected. 1625 patients had a rapid urease test done. 19.4% had *H pylori* infection. There was no significant difference in *H pylori* positivity rates between male and female. Malays 8.89%, Chinese 18.50%, Indians 22.61%, other Malaysians 42.74% and foreigner 19.44% with dyspepsia were positive for *H pylori*. Malays with dyspepsia were less likely to have *H pylori* infection compare to Chinese ($p<0.001$, OR=2.33), Indian ($p<0.001$, OR=2.99), other Malaysians ($p<0.001$, OR=7.65) and foreigner ($p=0.042$, OR=2.47). There was no significant difference in *H pylori* positivity rates among different age groups ($p=0.41$).

CONCLUSION

There was high likelihood of positive endoscopic findings for patients with dyspepsia though the association with the symptoms was not known. Malignancy rate, though was low, was found in three patients below 40 years old.

Staging and Post-Operative Preliminary Outcome of Colorectal Cancer Patients

M Radzi*, W Lim, W Khamizar*, N Raihan*, O Zabedah***, H Jamaiyah******

* Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia **Prince Court Medical Centre, Kuala Lumpur, Malaysia ***Hospital Kuala Lumpur, Kuala Lumpur, Malaysia ****Clinical Research Centre, Kuala Lumpur, Malaysia

BACKGROUND

Colorectal cancer is emerging as the commonest cancer among adult males and 3rd commonest among adult females in Malaysia. An overview of the staging and preliminary outcome of colorectal cancers in Malaysia will provide more information for the management of this disease.

OBJECTIVE

To see the association of staging and post-operative preliminary outcomes of patients that presented with colorectal cancer.

MATERIALS AND METHODS

Data was obtained from the NCPR-Colorectal Cancer. The registry recruits all histologically verified colorectal cancer cases from 10 hospitals (source data providers). Current results presented are from October 2007 to December 2008.

RESULTS

360 cases of colorectal cancer with surgical records were obtained from the registry; 207 males and 153 females. Dukes C was the most common stage followed by Dukes B for both males and females. Males recorded 7.25% inpatient death, with the highest percentage from the 'not staged/unknown' category. For females, there was 3.27% inpatient death post-operatively, with highest from Dukes B. Besides the primary cancer, cause of death also included post-operative complications.

CONCLUSION

Dukes C was the commonest pathological stage reported from the specimens, indicating that most patients presented late at hospitals. In every Dukes stage, more male cases were recorded, and a higher percentage of inpatient death was recorded for males compared to females.

Appropriateness of Upper GI Endoscopy (EGD) – Data from the Malaysian National Endoscopy Registry

R Melvin, A K Radhakrishnan, E T Ooi, S S Thein, A Saravanan

Gastroenterology Unit, Department of Medicine, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia

BACKGROUND

The appropriateness of the indications for upper gastrointestinal endoscopy (EGD) is recognised as a quality indicator for Endoscopy Units. Using the American Society for Gastrointestinal Endoscopy (ASGE) guidelines, the objective of this study was to evaluate the appropriate use of EGD in Six Pilot Public Hospitals participating in the Malaysian National Endoscopy Registry.

MATERIALS AND METHODS

A prospective analysis of the indications for patients referred for EGD from 1st September 2008 to 30th May 2009. Data was extracted from the National Endoscopy Registry online database.

RESULTS

A total of 10037 patients were referred for EGD. The most common age distribution was 50-59 (24.9%) followed by 60-69 (21.7%). The most common indication for EGD in this series was Dyspepsia (23.14%) followed by Gastrointestinal bleeding (17.31%). GERD symptoms were the indication in only 447 patients (4.45%).

The National Endoscopy Registry is an online database which has six participating Tertiary public hospitals. The current practice of open – access endoscopy allows physicians to directly schedule procedures without prior consultation. The majority of physicians adhered to the ASGE guidelines. Only 432 patients (4.3%) did not meet the guidelines. However a significantly large proportion of patients (34.46%) did not have the indications documented. The ASGE guidelines should be introduced to a wider group of doctors.

CONCLUSION

Among the documented indications for EGD, 95.7% met the ASGE guidelines. The most common indication was Dyspepsia followed by Upper Gastrointestinal Bleeding. GERD symptoms are not a common indication for EGD in Malaysian patients.

Indicators for OGDS	No. N=10037	%
Dyspepsia	2323	23.14
GERD symptoms	447	4.45
Dysphagia / Odynophagia	230	2.29
Gastrointestinal bleeding	1737	17.31
Treatment of bleeding lesions	110	1.1
Re-evaluation of previously bleeding lesion	553	5.51
Investigation of Iron-deficiency Anaemia	402	4.01
Suspected Portal Hypertension	343	3.42
Variceal therapy	309	3.08
Evaluation of caustic injury	7	0.07
Other therapeutic procedures	134	1.34
Other indication	184	1.83
Others (Did not fulfil ASGE guidelines)	432	4.3
Not Available	3459	34.46
Total	***10670**	

- *Several patients had more than one indication

Prevalence of Irritable Bowel Disease Among House Officer of Medical Department Hospital TAR, Klang

T S Lee, Katrina Lau, R Ruben, B P Khor, K K Sia

Hospital Tengku Ampuan Rahimah, Klang, Selangor, Malaysia

BACKGROUND

Irritable bowel disease is a common, chronic recurrent disease characterized by recurrent abdominal pain, discomfort and disturbances of bowel habit. Prevalence in Malaysia is estimated to be 15.7% with female predominance. Purpose of study is to estimate the prevalence of IBS among house officer and characteristic of IBS among them.

MATERIALS AND METHODS

A self-administered symptom questionnaire (based on Rome III criteria, Rome Foundation) was completed by 50 house officers under the medical department HTAR klang from April 2009 to July 2009 was analyzed.

RESULTS

A total of 50 house officers mean age of 26.2(range 24-30) were studied. 48% (24 cases) were male and 52%(26cases) were female. 34% subjects (17cases, 8 male and 9 female) were found to have IBS. There was no sex predominance found (33.3% male Vs 34.6% female) IBS -Diarrhea is the commonest subtype among female 44.4%(4 of 9 cases) whereas IBS- Mixed is more common among the male 50%(4 of 8 cases).

CONCLUSION

Prevalence among the house officers in medical department HTAR Klang is high as 34%; there is no sex predominance of IBS cases among them.

.

Lamivudine Resistance Among Patients Treated for Hepatitis B Infection in the Gastroenterology Clinic of Hospital Raja Permaisuri Bainun, Ipoh

K H Lam, S Palaniappan

Medical Department, Hospital Raja Permaisuri Bainun, Ipoh, Perak, Malaysia

BACKGROUND

Chronic Hepatitis B infection is a serious clinical problem in Malaysia. Lamivudine, an effective nucleoside analogue has been used in the treatment of Hepatitis B for many years. However, long term use of lamivudine has been associated with a high rate of resistance. The aim of our study was to analyse the number of patients who had developed resistance after chronic lamivudine therapy.

MATERIALS AND METHODS

Retrospective analysis was performed of out patient medical records of patients who were resistant to lamivudine. Data collected were from patients who had been attending the clinic from April 2002 to June 2009.

RESULTS

A total of 70 patients were on lamivudine therapy and of these, 21 (35%) developed resistance. Of the resistant patients, 85.7% (18) were males and 14.3% (3) were females. The majority of them were of Chinese origin, 85.7%, followed by Malays 14.3%. The median age was 40 years old. 33.3% were cirrhotic (all of which were Child's A cirrhotic) and 66.7% had chronic liver disease. Before starting treatment, only 17 (81%) of the patients had their HBeAg status checked, of which 14 (66.7%) were HBeAg positive. The mean duration of Lamivudine treatment to develop resistance was 3.5 years. Mutation was suspected when the enzyme ALT was elevated in 33.3% (7) of the patients and when the HBV DNA level was elevated in 66.7% (14). Mutation was confirmed present in 90.5% (19) whilst 9.5% (2) did not have mutation testing (due to cost constraints) but assumption was made based on increasing ALT's and subsequent response to adefovir. All patients with Lamivudine resistance were given add-on therapy with Adefovir (90.5%) except two patients who were changed to Adefovir monotherapy. Thirteen (76.5%) had mutations at the L180M codon, 10 (58.9%) had mutations at the M204I codon, 8 (47.1%) had mutations at M204V codon, 7 ((41.2%) had mutations at the L80V codon, 6 (35.3%) had mutation at L80I codon and 1 (5.9%) had mutations at the V/G173L codon.

DISCUSSION AND CONCLUSION

The majority of patients who developed lamivudine resistance are middle aged Chinese men with chronic liver disease. Of those with HBeAg status checked, majority was HBeAg positive disease. Thirty-five percent of patients treated with lamivudine developed resistance and average duration of resistance was 3.5 years after therapy (this may not be entirely accurate as the best mode of detection would be genotypic breakthrough with HBV DNA done 6 monthly, although this was not routinely done due to cost constraints). The majority of the study population had mutations at 2 codons and the commonest mutation occurred at L180M. However, the accuracy of our study is limited by the small number of patients as well as lack of documentation of certain data in the patient's clinical notes.

Hepatitis B Virus (HBV) Flares in Mysthenia Gravis: Case Reports

T R Nadia, C H Nor Aizal, S Rosemi

Department of Medicine, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan, Malaysia

BACKGROUND

Hepatitis B Virus (HBV) flares may be associated with hepatic decompensation, morbidity and mortality. We reported our first experience with two cases with Mysthenia Gravis who developed HBV flares following immunosuppression therapy for control of Mysthenia Gravis.

MATERIALS AND METHODS

The records of two Mysthenia Gravis cases reported to have HBV flares was reviewed. The profiles of each case was explored and the findings including the management and outcome were documented.

RESULTS

Case No. 1

A 37 Year Old Malay Lady with moderately severe Mysthenia Gravis was added Prednisolone and Myophenolate Mofetil to control her disease activity. However three months later she developed hepatic decompensation. Her LFT showed T.Bilirubin of 420micromol/l,INR of 3.23 and ALT of 31 u/l.HBV Profiles revealed HBsAg+ve,HBeAg-ve,HBeAb+ve, IgM HBc-ve and HBV DNA 640 copies/ml. Other Hepatitis markers was negative. She was recovered with supportive care and Lamivudine.

Case No. 2

A 29 Year Old Malay Male with moderately severe Mysthenia Gravis was initially added with Azthiperine for control of her disease activity however it was stopped because of altered LFT. Subsequently he developed Mysthenic Crisis and Prednisolene and Cyclosporine was added . He developed worsening of LFT and Ultrasound revealed a cirrhotic liver. His HBV profiles as follows,HBsAg+ve,HBeAg+ve,HBeAb-ve, HBV DNA 477,041 copies/ml.Other Hepatitis markers negative.She was recovered with supportive care and Lamivudine.

DISCUSSION AND CONCLUSION

We believed the above cases developed HBV Flares following immunosuppressive treatment for Mysthenia Gavis. In both cases HBV status was unknown prior to immunosuppression therapy, although HBV prevalence is relatively high in Kelantan state. Both cases recovered with antiviral therapy. Prescreening of Viral Hepatitis is important before starting immunosuppression therapy to avoid flare of Viral Hepatitis.

Cytomegalovirus Colitis: An Experience from Hospital Sultanah Bahiyah, Alor Star, Kedah

A Saravanan*, N Raihan, M Radzi*, K K Kiew*, K L Chin*, B P Ooi*, Z Faizal***

*Medical Department, **Pathology Department, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia

BACKGROUND

Cytomegalovirus (CMV) infection was a very common opportunistic infection reported among HIV patients prior to HAART therapy. Colonic involvement, presenting as colitis, is one of the commonest presentations in CMV infection. It is a treatable condition but without appropriate treatment, may result in fatal outcome. In most cases, diagnosis is made by histologic examination. In many circumstances, the condition is missed or rather, underdiagnosed.

OBJECTIVE

To identify cases of CMV colitis and their clinical presentation in Hospital Sultanah Bahiyah, Alor Star, from January 2008 till June 2009. To assess the mode of diagnosis of CMV colitis in these patients.

MATERIALS AND METHODS

All medical records of confirmed CMV colitis were retrieved. Clinical data, including their immune status, were studied.

RESULTS

There were 9 confirmed cases of CMV colitis identified. Two of the patients had HIV infection, 5 were associated with other imunocompromised conditions and the remaining 2 were immunocompetent. Of the 5 cases of non-HIV immunocompromised patients, 3 had end-stage renal failure (one of whom was on imunosupressive agents for renal transplant), one had ulcerative colitis and one was treated for colonic carcinoma. All cases presented with typical history of colitis and had colonoscopy, with biopsy taken. Histological examination revealed acute colitis picture with CMV inclusions. The latter were further confirmed with CMV imunohistochemical stain. Treatment with IV Gancyclovir was instituted in all patients. Assessment for response was based on recovery of colitic symptoms and improvement on colonoscopy.

CONCLUSION

CMV colitis is common among patients with immunosuppressed - associated conditions. However, from our study, it is also found to occur in immunocompetent individuals. Careful histologic examination with high index of suspicion and supportive imunostaining will assist in improving diagnostic yield CMV colitis. Prompt diagnosis may improve outcome of this condition, as it is treatable.

Malaysian GI Registry: Clinicoepidemiological Presentation of Esophagitis

S S Thein*, M R Melvin*, A K Radhakrishnan*, E T Ooi*, A Saravanan*, V Shanthi**

* Gastroenterology Unit, Department of Medicine, ** Clinical Research Center, Kuala Lumpur Hospital, Kuala Lumpur, Malaysia

BACKGROUND

Esophagitis is a common medical condition usually caused by gastroesophageal reflux. The objective is to determine the clinicoepidemiological presentation of esophagitis in the tertiary hospitals.

MATERIALS AND METHODS

A descriptive analysis was done from the Malaysian GI registry on all patients with esophagitis from September 2008 till May 2009. Six tertiary hospitals (5 from Peninsular Malaysia and 1 from Sabah) participated in the electronic data collection in the Malaysian GI Registry. Diagnosis of esophagitis was made from OesophagealGastroDuodenoscopy (OGDS).

RESULTS

A total of 2601 patients were found to have esophagitis from the registry. From this registry 887 patients had esophagitis from OGDS. *H Pylori* testing was performed in 205 patients with esophagitis. A total of 207 patients underwent OGDS for Gastroesophageal Reflux Disease (GERD) symptoms. GERD with esophagitis was more common in male (64 patients, 51%). 127 patients (61%) had esophagitis on endoscopy while 80 patients (39%) with GERD symptoms had no esophagitis. The predominant age group for the *H Pylori* positive patients with esophagitis was 60-70 years old. *H Pylori* was positive in 12 males (5.8%) and 4 female (1.95%) patients and was tested negative in 70 males (34.1%) and 45 females(22%). *H Pylori* positivity was the commonest among the Malaysian Chinese. 859 (94%) patients had esophagitis due to reflux esophagitis. Majority of patients (63%) had Grade A (LA classification) esophagitis, 196 patients (22%) had Grade B esophagitis, 57(6.6%) had Grade C esophagitis and 48 (5.6%) had Grade D esophagitis. Twenty-six cases (2.9%) of esophagitis are due to esophageal candidiasis. One patient (0.11%) had viral esophagitis.

CONCLUSION

Erosive esophagitis is commoner than endoscopy negative reflux disease (ENRD). There is a need to find a correlation between esophagitis and *H Pylori*. infection.

Evaluation of Liver Biopsy Practice in Hospital Sultananah Bahiyah, Alor Star, Kedah

A Saravanan*, N Raihan, M Radzi*, K K Kiew *, K L Chin*, B P Ooi*, Z Faizal*, W Anna**, M Zamari****

*Medical Department, **Pathology Department, Hospital Sultanah Bahiyah, Alor Star, Kedah, Malaysia

BACKGROUND

Liver biopsy is one of the important diagnostic as well as prognostic tools in investigation of liver diseases. The role of liver biopsy is very crucial, especially in the era of treating chronic viral hepatitis. It is a procedure not without risk, hence the procedure should only be carried out in the right setting with stringent precaution to ensure safety.

OBJECTIVES

To evaluate the liver biopsy practice in Medical Department, Hospital Sultanah Bahiyah, pertaining to safety profile and sample adequacy, for the period of July 2008 till June 2009.

MATERIALS AND METHODS

Platelet and coagulation profile were ensured to be within acceptable range prior to performing the liver biopsy. All biopsies were done under ultrasound guidance with the help of radiologists. Once the appropriate site located and marked by the radiologist, a gastroenterology trainee or a medical officer in gastroenterology department, under the supervision of a gastroenterologist, would perform the biopsy. This was done using spring loaded cutting biopsy needle with triggering mechanism (Magnum BARD, 14G needle). All collected samples were sent in formalin to pathology laboratory. These biopsies were read by three in-house pathologists.

RESULTS

There were 82 liver biopsies performed during the study period, of which 52 were males (63.4%) and 30 were females (36.6%). Mean age was 43.7 + 12.18. The indications for liver biopsy were categorized into 4 major groups: (i) grading and staging of chronic hepatitis C (n=44 (53.7%)), (ii) grading and staging of chronic hepatitis B (n=13.0 (15.9%)), (iii) evaluation of abnormal liver function test (n=24 (29.3%)) and evaluation of focal liver lesion (n=1 (1.2%)). There were no serious adverse event (0%) found in this study. All patients were discharged well 6 hours post biopsy. The macroscopic sample length ranged between 3mm and 18mm. Out of 82 biopsies, 6 cases (7.3%) had sample less than 5mm. Out of these 6 cases, the pathologists were able to give histopathological interpretation for 4 of them. The remaining 2 samples were reported as inadequate for interpretation. For samples with lengths greater than 5mm, all were able to assessed and interpreted.

CONCLUSION

Liver biopsy is a safe procedure according to our practice, with adequate samples obtained for the majority of the cases.

Hotspot Ser-249 TP53 Mutations, Aflatoxin B1-Adducts and Hepatitis B Infection in Human Hepatocellular Carcinoma from Malaysia

O Zulhabri*, R Jamal*, M R Isa, S Harjit***, W Z Wan Ngah***

*UKM Medical Molecular Biology Institute (UMBI), Kuala Lumpur, Malaysia **Department of Pathology, Faculty of Medicine, UKM, Kuala Lumpur, Malaysia ***Department of Surgery (Hepatobiliary), Hospital Selayang, Kuala Lumpur, Malaysia

BACKGROUND

A selective mutation in codon 249, of p53 gene has been identified as a hotspot mutation in hepatocellular carcinoma (HCC). In this study, we have investigated the hotspot mutation of ser-249 TP53 and levels of AFB1-adducts in human hepatocellular carcinoma patients form Malaysia.

MATERIALS AND METHODS

One hundred subjects diagnoses with HCC and 300 healthy volunteered with no diagnoses to any cancer as control subjects have recruited in this study.

RESULTS

The PCR-RFLP method and confirmation with DNA sequencing have shown that 39% (39/100) of HCC patients were positive for ser-249 mutation with significant differences with normal control 17% (54/300). These results indicate that the Ser-249 mutation is common in HCC in Malaysia, although a higher prevalence has been reported in other regions with high population exposure to aflatoxin (e.g., Eastern China: >50%). Analysis AFB1-albumin adducts by competitive ELISA shows that the levels was significantly higher in HCC patients (0.13±0.13 fmol/μ) as compared to control subjects (0.10±0.09 fmol/μ). The codon 249 mutations show no significant correlation with AFB1-albumin adducts level ($p>0.05$), but with the hepatitis B infection status ($p<0.005$).

CONCLUSION

The hot spot mutation codon 249 with infection of hepatitis B and exposure to aflatoxin B1 carcinogen might play an important role in hepatocarcinogenesis of hepatocellular carcinoma in Malaysia. Moreover, our studies indicate that plasma is a convenient source for earlier detection and diagnosis of liver cancer.

High Predicted NAT2 and CYP2A6 Enzyme Activity in Malaysian Chinese Increases Risk for Colorectal Carcinoma

M Nazri, M Nurfadhlina, W Y Wan Nazirah, I Rusli

*Universiti Sains Malaysia, Kota Bharu, Kelantan, Malaysia

BACKGROUND

Sporadic colorectal cancer (CRC) is a disease that is caused by an interplay of genetic factors and the environment. Persons may have an innate ability to bioactivate procarcinogens and/or to rapidly detoxify endo/exogenous carcinogens. N-acetyltransferase 2 (NAT2) and Cytochrome P450 2A6 (CYP2A6) are two enzymes that have been reported to have roles in this, and in the Malaysian population both enzymes are highly polymorphic with clear ethnic differences. The incidence of sporadic CRC has also been reported to have ethnic preponderances. According to the Malaysian National Cancer Registry, there were 8077 cases of large bowel cancers from 2003-2005, where the majority of patients were ethnic Chinese.

OBJECTIVES

The objectives of this study were to investigate the types and frequency of polymorphisms at these gene loci in the three major ethnic groups in Malaysia, and to investigate if there is parallelism with the incidence of local sporadic CRC.

MATERIALS AND METHODS

A cross-sectional, retrospective study was done using genotyping results from two recent local studies. Genotypic data from unrelated blood donors with pure ethnic origins for up to three generations were re-examined and re-classified into several groups: NAT2 polymorphisms into predicted fast, intermediate vs. slow acetylators (FA, IA vs. SA) while CYP2A6 polymorphisms into predicted extensive, intermediate vs. poor metabolisers (EM, IM vs. PM). The data was then analysed according to the three major ethnic groups in Malaysia.

RESULTS

Data from 520 volunteers (207 Malay, 161 Chinese and 152 Indian) were included. 63 (39.1%) of Chinese volunteers had combined NAT2 FA and CYP2A6 EM polymorphisms, compared to 35 (16.9%) in Malay, and 17 (11.2%) in Indian subjects ($p<0.001$).

CONCLUSION

This study suggests that in relation to predicted combined high NAT2 and CYP2A6 enzyme activity, Malaysian Chinese are at highest risk for CRC, followed by Malays and Indians. This parallels the local ethnic incidence for CRC.

Author Index