



Hong Kong Society of Gastroenterology

July 2002

Message from Professor Joseph Sung, President

Greetings to all!

2001/2002 continues to be a fruitful year for our Society in its efforts to maintain the standard of practice and interest in Gastroenterology in Hong Kong. A number of successful events took place during this year including the Third Joint Annual Scientific Meeting in September 2001 and the Society's 20th Anniversary and Annual General Meeting of March this year. My sincere thanks go to the enthusiastic support and contributions of our organizers, fellow members and sponsors from the industry.

The Annual Scientific Meeting was held last year on September 21 and 22. As in the past, the meeting was organized jointly with the Hong Kong Society of Digestive Endoscopy and Hong Kong Society for Coloproctology. This year's meeting was highly successful with the number of delegate from different specialties reaching a record high of over 500. Following this success, I am pleased to report that in the next Joint Annual Scientific Meeting, we'll be joined by The Hong Kong Association for the Study of Liver Diseases and The Hong Kong Society of Gastrointestinal Motility. The success of this meeting does not merely show the enthusiasm of our members and fellows to continue medical education, it also reflects the spirit of coalition among various GI societies in Hong Kong. I hope our members and fellows will continue to support this meeting which is scheduled on September 28, 2002.

The 20th Anniversary Dinner and AGM was another memorial day of the Society. We were honored by the presence of our Past Presidents and Founding Members, Professor G B Ong, Dr. E K Yeoh and Professor S K Lam who, through their speeches, took us from the history to the future development of our Society. Professor Xiao Shu Dong, President of the Chinese Society of Gastroenterology also brought his blessing from Shanghai.

This issue of the Newsletter contains a number of valuable and enlightening scientific updates on virtual colonoscopy, irritable bowel syndrome and colorectal cancer from our three fellows, Drs. Li Kin Kong, Vincent Leung and Chung Chi Chiu. These and other articles form the backbone of the Newsletter. I thank all contributors for their unfailing efforts in keeping the publication alive and in good shape.

I would like to take this opportunity to welcome new Members and Fellows of our Society and look forward to their active participation in our forthcoming events.

Last but not least, I salute to Dr. Yuen Hon, our past president, for leading the Society through two challenging years. My heartfelt gratitude also goes to Dr. CW Tsang and Dr. Edward Lai for their long services and valuable contributions to the Society.

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Virtual Colonoscopy

Dr Li Kin Kong Michael MBBS MRCP FHKCP FHKAM

Dr Li Kin Kong obtained his medical degree from University of New South Wales in 1988. He received his post-graduate training in Prince of Wales Hospital, the Chinese University of Hong Kong. During his fellowship training, he was very active in clinical research in gastroenterology and hepatology. He also spent his elective term in experimental research in portal hypertension at UCLA. Currently he is the senior medical officer and GI specialist in North District Hospital and Pok Oi Hospital, Hong Kong.

Background

Display of the inner surface of hollow organs by cross-sectional images obtained from traditional CT or MR imaging is inferior to endoscopy. Besides, for organs such as colon, interpretation of these images is difficult and inaccurate because of its highly convoluted tubular nature. Simulated 3-dimensional (3-D) image of human organs can now be generated by virtual reality technique with the advance of computer technology. For hollow organs such as gastrointestinal tract, this technique enables production of 3-D endoluminal images similar to that obtained during endoscopy. The first report of CT colon by David Vining et al. in 1994 marked the beginning of a new era of 3-D imaging.¹ Since then, 3-D endoluminal visualization of organs such as colon, bronchial tree, stomach, urinary tract, biliary tract, vessels and cerebral ventricles, has been reported with the use of this technology. Terms such as virtual colonoscopy, CT colonography, MR colonoscopy, virtual MR cholangiography, virtual bronchoscopy, are all referring to this new modality of imaging.

Virtual colonoscopy

Virtual colonoscopy involves several crucial steps: patient preparation, image data acquisition by either CT or MRI, image reconstruction and display in 2-D / 3-D format with "cine loop" representation (fly-through technique) by computer software, and image navigation and interpretation by experienced radiologist.

Patient Preparation

Unlike conventional colonoscopy, retained faecal matter or fluid may interfere significantly with image acquisition. Ideally a bowel preparation



with good cleansing effect and the least amount of retained fluid should be chosen for this procedure. Hence sodium phosphate enema may be preferred to polyethylene glycol as it was shown that the former preparation resulted in significantly less residual fluid within the colon, that was, a drier colonic mucosa.² The problem of retained fluid or faecal matter can be partially overcome by imaging in both supine and prone position.³ It has been suggested that an oral labeling agents could mark faecal residue so as to differentiate it from genuine colonic lesion. However this formulation has not yet been reported in the literature. Adequate colonic distension is essential for virtual colonoscopy to reduce the difficulty in image interpretation. This is usually achieved by administration of intravenous muscle relaxant followed by either insufflation of the colon with air for CT or filling the colon with water enema spiked with gadolinium contrast for MR imaging. Intravenous contrast was used in some centers to enable differentiation of tissue from faecal matter.

Image acquisition

The time taken for data acquisition by either CT or MR imaging is short (3 to 4 breath holds of less than 30 seconds) and is tolerable for most patients. However, CT has the advantage of smaller voxel (3-D equivalent of a pixel) size and hence may result in higher sensitivity for small colonic lesions. Unlike conventional CT imaging, the high contrast air-tissue interface enables lower radiation dose (mAs) for CT colonoscopy. Certainly MR imaging is more advantageous when radiation is a major concern in susceptible patient groups.

Image reconstruction and display

Perspective-rendering algorithms is used to produce the simulated endoscopic view. By this technique, images are rendered from a point at a finite distance to approximate the human eye so that objects closest to the observer are magnified and appear larger than objects of an identical size further from the viewer (Fig 1). Latest computer technology and graphic display software substantially shortens the image reconstruction time to less than 1 hour.

SCIENTIFIC UPDATES

Image navigation and interpretation

With 3-D endoluminal display in cine-loop format, operator can now navigate through the colon to produce a 360° view ("fly-through" approach). Recent graphic software allows display of 2-D (axial, vertical, and horizontal) and 3-D images in a multi-window format so that both the endoluminal and cross-sectional view of any colonic lesion can be examined simultaneously (Fig 2). Besides, the computer can perform mid-line navigation automatically so as to reduce the time of image viewing by the operator. Certainly, a learning curve is needed for the radiologist to familiarize with endoluminal colon examination so as to reduce the perceptive error and the interpretation time.⁴ At present, diagnostic interpretation time is around 20-30 minutes in experienced center.

Virtual CT colonoscopy (vCTC)

Feasibility studies

The first 2 blinded studies to evaluate the sensitivity and specificity of vCTC in colorectal polyps/masses detection were published in 1997.^{5,6} These 2 studies recruited patients with either known colonic polyps or suspected colorectal carcinoma. The gold standard for comparison was conventional colonoscopy (CC). The sensitivity to detect polyps of <5mm, 5-9mm, and >10mm by vCTC was 25-27%, 56-69%, 67-73% by Hara et al. and 67%, 90%, 100% by Royster et al.. The lower sensitivity by Hara et al. could be accounted for by the use of supine-only imaging, which precluded detail examination in collapsed and water-filled colonic segments. Although the detection of polyps < 5mm was less satisfactory in both studies, vCTC provided more accurate localization of the lesions and was better tolerated by most patients comparing with CC. In one study using endoscopic and operative findings as reference in 38 patients with endoscopic evidence of colorectal carcinoma, both vCTC and CC could detect all colonic tumor (>2cm) but vCTC correctly located all lesions compared with 80% (33/38) by CC.⁷

Application studies

Occlusive colonic lesions

It is conceivable that virtual colonoscopy is not limited by any obstructive lesions. One study showed that in 29 patients having occlusive colorectal cancer, vCTC could identify not only all 29 tumors but also 2 more synchronous tumors and 24 polyps in the proximal colon.⁸ In addition, vCTC successfully demonstrated the proximal colon in 26 of 29 patients compared with pre-operative barium enema, which failed to adequately examine the proximal colon in any of them. Another study with 15 of 34 patients having incomplete colonoscopy due to obstructive colorectal lesions also demonstrated significant advantage of vCTC over barium enema in visualization of proximal colonic segment (97% vs 60%).⁹ Hence, it is concluded by those studies that vCTC is the preferred method for pre-operative evaluation of the entire colon in patients with occlusive colorectal carcinoma.

Incomplete colonoscopy

Morrin et al. prospectively studied 40 patients by comparing vCTC with barium enema immediately after incomplete colonoscopy.¹⁰ vCTC was shown to visualize more colonic segment than barium enema (96% vs 91%). More importantly, vCTC could identify the causes of endoscopic failure in 73% (vs 65% by barium enema) of patients which included extrinsic lesion. However, no gold standard reference was used in this study to verify the "positive" findings observed by vCTC.

Colorectal cancer/polyp screening

The studies mentioned above included patients with either endoscopic or radiological evidence of colorectal lesions, hence radiologists were biased by this high expectation of positive findings. Few studies tried to evaluate vCTC in a screening population. Rex et al. recruited 46 asymptomatic patients (mean age 67.7 years) to undergo vCTC followed by CC.¹¹ The sensitivity to detect polyps ≥2cm, 1-1.9cm, 6-9mm, and <5mm was 25%, 60%, 43%, and 11% respectively whereas the specificity for patients with adenomas ≥1cm was 89%. The authors concluded that vCTC was inferior to CC for adenoma detection in a screening population. This study was criticized for its small sample size, learning curve bias and subject selection bias as some of the patients had polyps diagnosed on screening sigmoidoscopy prior to recruitment. Felton et al. studied 100 high-risk patients (mean age 62 years) in similar design.¹² Complete colon examination was achieved in 87 patients by vCTC and 89 by CC. Three carcinomas and 115 polyps were detected by CC. All carcinomas were identified by vCTC and the sensitivity to detect polyps ≥10mm, 6-9mm, and ≤5mm was 91%, 82%, and 55% respectively. The authors concluded that vCTC and CC have similar efficacy for detection of polyps ≥6mm. This comment was probably too optimistic as the successful rate for complete CC was exceptionally low in the study (>95% in other screening colonoscopy trials) and detection capability for polyps ≥1cm was substantially inferior to CC. Kay et al. recently reported a similar result of 91% sensitivity in detection of polyps >1cm in 38 high-risk patients.¹³ However, the sensitivity drops to 39% in polyps 5-9mm. Based on the available data, improvement in sensitivity of polyp detection is urgently needed before vCTC can be applied as an effective colorectal cancer/polyp screening tools especially in average or low-risk population.

Virtual MR colonoscopy (vMRC)

Only few human studies on vMRC had been published since its introduction in 1997.^{14,15} Luboldt et al. reported a sensitivity of 100% for lesions >10mm, 60% for 5-9mm and 0% for <5mm in 23 patients referred for CC.¹⁶ The disappointing result in detection of small lesions <5mm is due to the larger voxel size by MR imaging. In a series of 70 patients, Pappalardo et al. showed that vMRC had 100% sensitivity in detecting lesions >10mm and an overall sensitivity of 95% in detecting

endoluminal lesions.¹⁷

Further developments

Virtual colonoscopy as a diagnostic tool certainly has several advantages over conventional colonoscopy: better patient tolerance, higher entire colon visualization rate, and extraluminal lesions detection. However, at present, this technique is still hampered by its inconsistent sensitivity/specificity, high cost, time input by radiologists, availability of hardware and software, radiation exposure(vCTC) and lack of surface detail of the lesions such as color and appearance. Certainly, with the advance of computer technology, most of these hurdles will be overcome in the near future. Ideally, if bowel preparation can be simplified further or even avoided totally (e.g. by contrast labelling with digital subtraction of faecal matters), its acceptance should be greatly enhanced. We expect to see more well-designed clinical trials in applying this new modality of investigation in other gastrointestinal disorders such as inflammatory bowel disease, or in comparison with other imaging modalities such as barium enema before its role can be better defined.

Figure 1

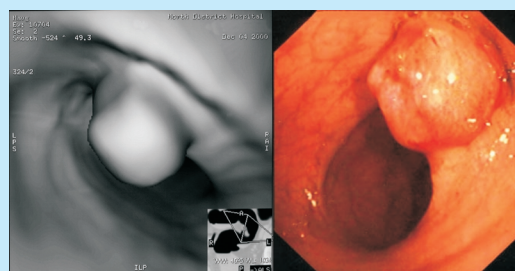
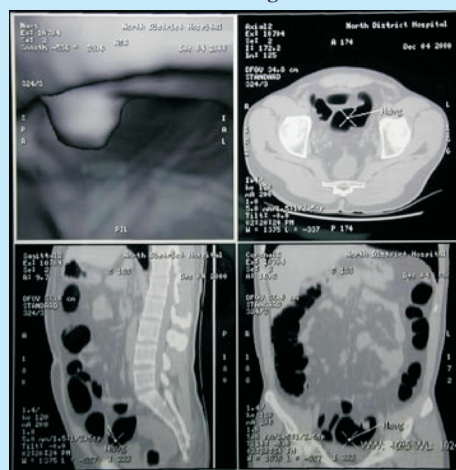


Figure 2



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SURGICAL MANAGEMENT OF COLORECTAL CANCER

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Introduction

Although surgery remains the mainstay of treatment for colorectal cancer, over the past decades there has been a continuing change in the concept of what constitutes an adequate surgery, such as what makes an 'adequate' distal or lateral margin. Another example is the evolving concept of total mesorectal excision for mid- or low- rectal carcinoma. As laparoscopic colorectal surgery is gaining maturity and popularity, the concept of how the surgery should be performed may change in the coming years. This article attempts to summarize the current primary surgical treatment for uncomplicated colorectal cancer, and to discuss the current controversies in the subject.

Treatment of Colon Cancer

Although various regimes of adjuvant therapies have come along the past few decades, surgery remains the mainstay of treatment in colon cancer. Typically, 50-70% of patients presenting to a surgical clinic with colorectal cancer will undergo apparent curative surgery(1). Important prognostic factors affecting local recurrence and disease-free survival include tumour grading and staging, lymphovascular permeation, inadvertent tumour perforation, and above all, the surgeon's experience(1,2). It cannot be overemphasized that, as recurrent disease is usually fatal, the first operation is most crucial and is therefore best performed by a high volume specialist surgeon(2).

Scope of Radical Resection : "High-tie" vs "Low-tie"

Most surgeons would treat a cancer in the caecum and ascending colon by a right hemicolectomy, and would extend the resection by taking the middle colic artery (i.e. an extended right hemicolectomy) if the tumour lies at or near the hepatic flexure. Likewise a tumour in the mid-portion of the transverse colon will be treated by an extended right hemicolectomy or transverse colectomy, whereas tumour at the splenic flexure or descending colon requires a left hemicolectomy. The opinion diverges in the case of sigmoid carcinoma. Some surgeons still insist on a high ligation of the inferior mesenteric artery (i.e. a 'high-tie') hoping to obtain maximal lymph node clearance. Because of the high ligation, blood flow to the left colic artery is cut off and the descending colon is rendered ischemic. Therefore, a high-tie will, often if not always, necessitate a left hemicolectomy.

On the other hand, most colorectal surgeons will ligate the inferior mesenteric artery below the take-off of the left colic artery (i.e. a 'low-tie') and simply perform a sigmoid colectomy, in which case the vascular supply to the anastomosis is based on the left colic vessels. In fact, there has been no prospective data demonstrating that radical left hemicolectomy is superior to more limited resection for sigmoid carcinoma in terms of survival. On the contrary, a randomized trial performed by Rouffet et al in 1994 showed that, while there was no difference in survival between patients after left hemicolectomy and sigmoid colectomy, radical left hemicolectomy did lead to increase in bowel frequency and resulted in a poorer functional outcome(3). Similarly, a retrospective analysis by Busuttil et al in 1997 showed that a more limited resection was associated with lower operative mortality, shorter hospital stay, and improved 5-year survival(4). Indeed, even for rectal cancer it has been shown that recurrence and survival after surgery is not influenced by high or low ligation of inferior mesenteric artery(5). Thus, the current consensus is that high ligation confers no survival benefit, and should be regarded as a means for better mobilization rather than better lymphadenectomy. Moreover, one must take caution in performing high ligation in elderly patients or patients with atherosclerotic disease.

The "No-touch" Technique

In mid-1960s, Turnbull advocated the no-touch technique for resection

of colorectal cancer(6). The rationale was to reduce the likelihood of blood-borne metastasis via the portal circulation by ligation of the lymphovascular pedicle before manipulating the primary cancer. While it is theoretically sound, unfortunately the concept was not supported by evidence. To date, no trial has ever demonstrated that the 'no-touch' technique leads to a better survival. On the other hand, a randomized trial carried out by Wiggers et al in 1998 demonstrated that this 'no-touch' technique conferred no survival benefit(7). Moreover, in practice the 'no-touch' technique is technically difficult, because the surgeon should usually assess the resectability of the tumour and make a trial mobilization before vascular occlusion, which is irreversible and which means resection is mandatory. And in so doing the surgeon will in some way 'touch' the tumour inevitably.

Nevertheless, though not evidence-based, the 'no-touch' technique remains a good surgical principle and practice. It is generally recommended that direct tumour manipulation during surgery should be kept to a minimum, and early vascular occlusion is preferable as soon as tumour resectability is confirmed.

Management of Malignant Colonic Polyp

The subsequent management of an endoscopically retrieved malignant colonic polyp is one of the most controversial issues in colorectal surgery. Some centres will proceed with radical surgery in all patients with malignant colonic polyp, because they maintain that approximately 10% of these patients have mesenteric lymph node involvement(8). However, many centres adopt a more selective approach, and would manage these patients according to the prognostic criteria proposed by Zauber et al(8) (see table 1). In patients with all the favourable criteria, the risk of lymph node involvement is only between 0.3% to 1.5%. Therefore, resection is not required and a follow-up colonoscopy programme is initiated, for example, 3 to 6 months after the polypectomy and then 3-yearly thereafter. However, in patients with any of those unfavourable criteria, the risk of lymph node involvement is significantly higher (8.5% to 14.4%). Therefore, these patients should be treated by radical surgery. Of course, the patient's surgical risk should also be taken into consideration.

Treatment of Rectal Cancer

The treatment of rectal cancer presents a specific challenge to colorectal surgeons because often at times the surgeon has to strike a balance between adequate oncological clearance and good functional outcome.

What is Adequate Distal Margin?

For a long time, cancer of the upper rectum was managed with anterior resection with a straight colo-rectal anastomosis. This is still the treatment of choice today. The controversy and difficulty lie in the treatment of low- and mid-rectal cancers (say, within 10cm from anal verge). These tumours were classically treated with abdomino-perineal excision proposed by Miles in 1908(9). As time and experience accumulates it is now known that a distal mural margin of 2cm is adequate for most, if not all, rectal cancer(10). Besides, in recent decades the advent of stapling devices has made colorectal anastomosis low down in the true pelvis technically much simpler. As a result, most mid-rectal cancers and at least some low-rectal cancers today are amenable to a sphincter-saving operation of some sort.

Although a 2cm distal mural margin is considered adequate, it was observed that tumour cells can spread distally along the lymphatics in the mesorectum for as far as 5cm beyond the tumour(11,12). This important observation had led to the concept of total mesorectal excision for cancer of the mid- and low-rectum, pioneered by Heald in 1982(11). He has reported a 4% local recurrence rate at ten years and 78% 10-year disease free survival with this technique of total mesorectal excision,

alone without the use of any adjuvant therapy(13,14). These impressive figures could not be achieved by any other centres in the world. His work has remarkable impact on the treatment strategy of rectal cancer. Currently, many colorectal surgeons would treat an upper rectal cancer with anterior resection by taking a 5cm distal mesorectal and mural margin. For mid- or low-rectal cancer, most will perform a total mesorectal excision and reconstruct with a colonic J pouch-anal anastomosis. The addition of a J pouch is associated with a better functional outcome because it significantly reduces the frequency of bowel motion, urge incontinence and tenesmus(15). For those low-rectal carcinoma encroaching upon the anal sphincters, whereby a 2cm distal margin is deemed impossible, the treatment will be abdomino-perineal resection.

Local Treatment of Rectal Cancer

Occasionally some very low rectal cancers are amenable to local therapy thus saving patient from a sphincter-ablative procedure. The most commonly performed local therapy is transanal full thickness excision(16). Tumour lying in the mid-rectum can sometimes be treated by transanal endoscopic microsurgery (TEM)(17). However, the procedure is not widely practised, partly due to the procedure's complexity itself. Both transphincteric excision and transsacral excision (Kraske approach) were historical and are either obsolete or very rarely performed nowadays. Undoubtedly local excision has a definite place as a palliative treatment for low-lying rectal tumours. However, as a curative treatment local excision should only be offered to a highly selected group of patients according to certain selection criteria(18) (table 2). Probably less than 5% of all rectal cancer can be adequately treated by local therapy alone. All potential candidates for local therapy should be carefully evaluated clinically, and if necessary, an examination under sedation or anaesthesia, so that sigmoidoscopic examination, and a digital per rectal and/or per vaginal examination can be performed in a fully relaxed patient. In addition, an endorectal ultrasound examination is mandatory and proves to be invaluable in the preoperative loco-regional staging of rectal tumours(19,20). The tumour that is resected should be properly oriented and sent for pathological examination. Finally, the surgeon should be prepared to proceed to a second radical operation if subsequent histology revealed any of the following unfavourable factors : (1) margin involvement; (2) poorly differentiated tumour; (3) lymphovascular permeation; (4) muscle or full thickness invasion.

Laparoscopic Surgery for Colorectal Cancer

There is now a wealth of evidence suggesting that laparoscopic colorectal resection is associated with decreased wound pain, shorter hospital stay, earlier return of bowel function, decreased pulmonary complications and better patient satisfaction. Still the antagonists of laparoscopic surgery hold that the loss of tactile sensation means that the laparoscopic surgeon can never possibly perform a decent staging laparotomy, and that port-site recurrence remains a real hazard; moreover, they maintain that lymph node clearance might be inferior to open surgery. Some of these dispute have gradually resolved recently. To a certain extent laparoscopic contact ultrasonography can replace the surgeon's hand in the intraoperative staging of the liver(21,22). Moreover, the introduction of handport(23) (pneumosleeve) could potentially resolve this issue completely in future. As time and experience accumulates, it now becomes evident that port-site recurrence has been over-reported initially. Indeed, the current consensus is that, provided the wound for specimen retrieval is protected, port-site recurrence is rare and usually reflects a disseminated underlying disease(24). Speaking for our own results we have so far encountered only one case of port-site recurrence after more than two hundred laparoscopic resections. This patient was subsequently proved to have carcinomatosis peritonei. Thus our experience concurs with that of the western literature.

The question that remains is the adequacy of lymphadenectomy and oncological clearance. This question is still open to dispute, and definite answer can only come from recurrence rate and long term survival figures of ongoing randomized trials. However, suffice to say that both in the experience of us and others the median survival figures are at least comparable to that of open surgery(25-27).

In conclusion, laparoscopic surgery has a significant impact on the management of colorectal cancer in the past decade. Long term results from large randomized trials are coming very soon. The use of handport is currently under evaluation and potentially can help both to broaden the indication and increase the applicability of laparoscopic approach for colorectal cancer in future.

Favourable Criteria	Unfavourable Criteria
Complete endoscopic resection	Uncertain endoscopic resection
Carcinoma not poorly differentiated	Carcinoma poorly differentiated
Absence of vascular or lymphatic invasion	Vascular or lymphatic invasion
Resection margin free of cancer	Cancer extends to resection margin

Table 1 : Prognostic Criteria for Malignant Polyp

Selection Criteria
* Tumour not amenable to low anterior resection (less than 6-8cm from anal verge) * Freely mobile T0 or T1 tumour * No clinically detectable perirectal lymph nodes * Tumour less than 3-4cm in diameter (less than 1/3 circumference) * Tumour has a pedicle or pseudopedicle * Well or moderately well differentiated tumour * Ideally posterior or posterolateral in location
(Gingold Am J Surg 1983)

Table 2 : Selection Criteria for Local Therapy of Rectal Cancer

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5-hydroxytryptamine receptor agonists and antagonists in irritable bowel syndrome



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Irritable bowel syndrome (IBS) is among the most common of gastrointestinal disorders, affecting up to 20% of population in western countries (1) and accounting for 25-50% of referrals to gastroenterologists (2). There is a clear female predominance with a female to male ratio of about 2:1 (3). IBS comprises a group of functional bowel disorders in which abdominal discomfort or pain is associated with alterations in bowel habits. Diagnosis is based on identifying positive symptoms known as Rome criteria (4) (Table 1) and excluding organic diseases in a cost-effective manner using minimal diagnostic studies.

Effective treatment of IBS remains a challenge to primary physicians and gastroenterologists. The heterogeneity of symptoms, the lack of a reliable pathophysiological marker of improvement, and significant placebo responses have made the assessment of drug efficacy difficult. Pharmacotherapy targeted at the specific predominant symptom is commonly utilized with variable success. Thus, smooth muscle relaxants such as anti-cholinergics and mebeverine are widely used for the treatment of abdominal pain. Fibre and an osmotic laxative (such as lactulose) are commonly recommended for constipation, whereas loperamide is used when diarrhoea is the predominant symptom. Anti-depressants are generally reserved for patients with severe or refractory symptoms, and those with associated depression or anxiety.

During the past decade new therapeutic targets have been identified that have permitted the development of new drugs with therapeutic potential for IBS. Identification and characterization of 5-hydroxytryptamine (5-HT) receptors in the gastrointestinal tract (Table 2), in particularly 5-HT₃ and 5-HT₄ receptors where IBS is concerned, has led to a number of studies of agonists and antagonists of these receptors. 5-HT is released from enterochromaffin cells of the mucosal epithelium in response to chemical or mechanical stimuli. The mucosal action of 5-HT is to stimulate intrinsic and/or extrinsic sensory neurones (5). Intrinsic sensory neurones, which are activated by 5-HT_{1P} and 5-HT₄ receptors, initiate peristalsis and secretory reflexes. Extrinsic sensory neurones activated through 5-HT₃ receptors initiate noxious sensations from the bowel, which may include nausea, bloating, and pain.

5-HT₃ receptor and 5-HT₄ receptor antagonists appear to reduce visceral sensitivity to colonic distension and have inhibitory effects on motor activity in the distal intestine. Early clinical studies suggest that these agents may have a role in painful, diarrhoea-predominant IBS. Among the 5-HT₃ receptor antagonists, alosetron was recently approved in the USA for the treatment of diarrhoea-predominant IBS in females. In a randomised trial published recently, alosetron was reported to be effective in relieving pain and discomfort, normalising bowel frequency, and reducing urgency in women with non-constipated IBS (6). The main side effect of the treatment was constipation but one case of ischaemic colitis was also reported. In November 2000, however, the manufacturer withdrew alosetron from the market in the USA because of further cases of ischaemic colitis. There had been 49 cases of ischaemic colitis and 21 cases of severe constipation, including instances of obstructed and ruptured bowel. Of the 70 cases, 34 patients required admission to hospital without surgery, 10 needed surgery, and 5 resulted in death. It remains to be determined whether this is a side effect confined to alosetron or represents a class effect common to all 5-HT₃ antagonists. If it is the later, then this could present problems for all of the other 5-HT₃ receptor antagonists (e.g. cilansetron) in development.

Piboserod (SB-20766A) is a 5-HT₄ receptor antagonist under development for the treatment of diarrhoea-predominant IBS. Preliminary data suggest that piboserod may improve symptoms in patients with diarrhoea-predominant IBS, reducing both orocaecal transit time and patient reported bowel-related symptoms (7). Further trials are currently ongoing to examine its role in diarrhoea-predominant IBS. Unlike 5-HT₃ receptor antagonists, the 5-HT₄ receptor antagonists have not been associated

with ischaemic colitis thus far.

5-HT₄ receptor agonists, conversely, possess enterokinetic activity in the mid- and distal gut, and hence may be useful for treating constipation-predominant IBS patients. Tegaserod is a selective 5-HT₄ receptor partial agonist which has been shown to accelerate small bowel transit and tended to hasten colonic transit in patients with constipation-predominant IBS (8). Phase III randomised, double-blinded, and placebo-controlled trials have also been performed demonstrating the efficacy of tegaserod in the treatment of abdominal pain, bloating and constipation in female patients with IBS (9-10). Thus far, it has been demonstrated to be safe and well-tolerated except for the adverse effect of transient diarrhoea in about 10% of recipients. In vitro studies suggest that tegaserod, in a range of concentrations likely to occur during clinical use, does not delay cardiac depolarisation or prolong QT interval of the electrocardiogram as does the benzamide 5-HT₄ agonist/5-HT₃ antagonist cisapride (11). More than 10,000 electrocardiograms from participants receiving tegaserod have been analysed to date, with no increased frequency of QTc interval prolongations or dysrhythmias recorded (12). Base on the results from these phase III trials, an application for approval of tegaserod in the treatment of IBS has been submitted to the United States Food and Drug Administration.

On the other hand, phase III trials of prucalopride, a full 5-HT₄ receptor agonist, are currently on hold because of concern of potential intestinal carcinogenicity in animal species.

Although IBS can severely impair quality of life, it is not a life threatening condition and therefore any potential new medication has to be much safer than might be acceptable for other indications. Furthermore, any new drug should be compared with existing pharmacological agents and its costs should also be taken into account.

Table 1. "Rome II" diagnostic criteria for IBS (4)

A. At least 12 weeks of continuous or recurrent abdominal discomfort or pain that has 2 of 3 features:

1. relieved with defecation; and/or
2. onset associated with a change in frequency of stool; and/or
3. onset associated with a change in form (appearance) of stool.

B. Supportive symptoms of IBS*:

1. fewer than 3 bowel movements a week
2. more than 3 bowel movements a day
3. hard or lumpy stools
4. loose (mushy) or watery stools
5. Straining during a bowel movement
6. Urgency (having a rush to have a bowel movement)
7. Feeling of incomplete bowel movement
8. passing mucus (white material) during a bowel movement
9. abdominal fullness, bloating or swelling

* Diarrhoea-predominant one or more of 2, 4, or 6 and none of 1, 3, or 5
Constipation-predominant one or more of 1, 3, or 5 and none of 2, 4, or 6

Table 2. 5-HT receptors in gastrointestinal function and novel therapies in development for IBS

Subtypes	Mediated Function	Agonist	Autagonist
5-HT _{1A}	visceral sensation		
5-HT _{1P}	peristalsis sensation		
5-HT _{2A}	smooth muscle contraction		
5-HT ₃	visceral sensation peristalsis & secretion		alosetron cilansetron
5-HT ₄	peristalsis & secretion	prucalopride tegaserod	piboserod

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Biography

Dr. Vincent Leung graduated from the Faculty of Medicine at the University of Sydney in 1989. After completing internship at the Royal Prince Alfred Hospital in Sydney, Australia, Dr Leung returned to Hong Kong to undergo training in internal medicine at United Christian Hospital in 1990. He obtained Membership of the Royal College of Physicians in 1992, and subsequently became a trainee in Gastroenterology & Hepatology in the Department of Medicine at the Prince of Wales Hospital in 1993. In 1996 Dr. Leung was awarded the Croucher Foundation Research Fellowship and he returned to Sydney as Visiting Research Fellow in the School of Microbiology & Immunology at the University of New South Wales. Under the supervision of Professor Adrian Lee, Dr. Leung underwent research projects on the ecology of *Helicobacter pylori* in mouse model at the School. Having spent one year working with mice, Dr. Leung waved goodbye to Sydney again and returned to Hong Kong to complete his training in Gastroenterology & Hepatology. In 1997 Dr. Leung was granted Fellowships in the Hong Kong College of Physicians and the Hong Kong Academy of Medicine. Dr. Leung is currently Senior Medical Officer in the Department of Medicine & Geriatrics at United Christian Hospital. Besides studying *H. pylori*, Dr. Leung's other areas of interest include diagnostic and therapeutic endoscopies, endoscopic ultrasonography, and NSAID-related gastrointestinal injuries.

Major Meetings

3rd International Congress, The African Middle East Association of Gastroenterology August 28-31, 2002

Location: Royal Cultural Center, Jordan
Organizer: Alfa Medical
For further information, please contact -
Tel: +20 245 32916
Fax: +20 245 33515
E-mail: alfa@alfamedical.com
Website: www.alfamedical.com

Liver Cancer: From Basic Science to Bedside August 29, 2002 - September 1, 2002

Location: Eilat, Israel
Organizer: KENES Ltd.
For further information, please contact -
Tel: +972 (03) 514 00 14
Fax: +972 (03) 514 00 77
E-mail: conventions@kenes.com
Website: www.kenes.com

15th Workshop of the European Helicobacter Pylori Study Group on Gastroduodenal Pathology and Helicobacter Pylori September 11 - 14, 2002

Location: Athens, Greece
Organizer: Hospital Pellegrin, F. Megraud
For further information, please contact -
Tel: +33 (05) 56 79 56 79
Fax: +33 (05) 55 67 95 93
Website: www.helicobacter.org

Gastroenterology Update September 19-20, 2002

Location: Fort Lauderdale, Florida
Organizer: The Cleveland Clinic
For further information, please contact -
Tel: 216-444-2200 / 888-223-2273 ext.48-950

Fourth Joint Annual Scientific Meeting September 28, 2002

Location: Sheraton Hotel & Towers Hong Kong
Organizers: The Hong Kong Society of Gastroenterology
The Hong Kong Society of Digestive Endoscopy
Hong Kong Society for Coloproctology
The Hong Kong Association for the Study of Liver Diseases

The Hong Kong Society of Gastrointestinal Motility

For further information, please contact -
Tel: (852) 2869 5933
Fax: (852) 2869 9533
E-mail: gastro@netvigator.com
Website: www.fmshk.com.hk/hksg

10th United European Gastroenterology Week October 19-23, 2002

Location: Palexpo Congress and Exhibition Centre, Geneva
Organizer: MCI Congress
For further information, please contact -
Tel: +41 61 265 38 46
Fax: +41 61 265 38 47
E-mail: uegw@mci-group.com
Website: www.uegf.org/uegw2002

International Symposium on Hepatology 2002

15th ASM of the HK Association for the Study of Liver Diseases November 8-9, 2002

Location: Room 301B, New Wing, Hong Kong Convention and Exhibition Centre
Organizer: The HK Association for the Study of Liver Diseases
For further information, please contact -
Secretariat: Ms. Manda Fung or Ms. Sigourney Liu
Conference Organizing Service:
The Federation of Medical Societies of HK
Tel: (852) 2527 8898
Fax: (852) 2866 7530
E-mail: cos@fmshk.com.hk

1st Intercollegiate Scientific Meeting Minimally Invasive Medicine November 9-10, 2002

Nov 9, 02 2:00 p.m. - 9:30 p.m.
Nov 10, 02 9:00 a.m. - 5:30 p.m.
Location: Hong Kong Academy of Medicine Jockey Club Building, 99 Wong Chuk Hang Road Aberdeen, Hong Kong
Organizer: Hong Kong Academy of Medicine
For further information, please contact -

Tel: (852) 2871 8787
Fax: (852) 2871 8898
E-mail: confdept@hkam.org.hk

2nd Gastrointestinal Cancer Research Conference November 21-23, 2002

Location: London
Organizer: Conference Services - HMB 131
For further information, please contact -
Tel: 713-792-2222
Fax: 713-794-1724
E-mail: meetings@mdaisd1.mdacc.tmc.edu
Website: www.mdanderson.org/

2nd Gastrointestinal Cancer Research Conference November 22-23, 2002

Location: Orlando, Florida
Organizer: Conference Services-HMB 131, UT M. D. Anderson Cancer Center
For further information, please contact -
Tel: 713-792-2222
Fax: 713-794-1724
E-mail: meetings@mdaisd1.mdacc.tmc.edu

Gastroenterology December 6-7, 2002

Location: Geneva, Switzerland
Organizer: Prof. H. Hadengue Hospital Cantonal, Gastroenterologie & Hepatologie
For further information, please contact -
Tel: +41 (022) 372-9340
Fax: +41 (022) 372-9366

18th World Congress of Digestive Surgery December 8-11, 2002

Location: Hong Kong Convention and Exhibition Center
Organizer: Department of Surgery, University of Hong Kong Medical Centre
For further information, please contact -
Tel: +852 2818 0232
Fax: +852 2818 1186
E-mail: isdshk@hkucc.hku.hk
Website: www.hku.hk

Third Joint Annual Scientific Meeting

September 21 & 22, 2001

Jade Ballroom, Furama Hotel

This meeting was again organized jointly with The Hong Kong Society of Digestive Endoscopy and The HK Society for Coloproctology. It was very well attended with the number of participants at some 300 on each of the first and second day. The video presentation of Professor Martin Freeman who cancelled his flight to Hong Kong as a result of the 911 incident in US, was both interesting and stimulating. Other lectures by Dr. Rupert Leong and our local speakers: Dr. Samuel Kwok, Dr. Yuen Siu Tsan, Dr. Leung Wai Keung, Dr. Chan Lik Yuen and Dr. Yuen Man Fong were well received. There was active participation throughout the two-day meeting. Dr. Chan On-on was awarded the trophy for the best presenter. This meeting, sponsored by AstraZeneca (Hong Kong) was a highly successful annual event.



Fourth Joint Annual Scientific Meeting

September 28, 2002 (Saturday)

Sheraton Hong Kong Hotel & Tower,

Nathan Road, Kowloon

Co-organizers: The HK Society of Gastroenterology
The HK Society of Digestive Endoscopy
The HK Society for Coloproctology
The HK Association for the Study of Liver Disease
The HK Society of Gastrointestinal Motility

Sponsor: AstraZeneca (Hong Kong)

Programme:

Time	Topics	Speakers
1:00 - 2:30	Buffet Lunch	
2:00 - 3:00	Free Paper Session (Chairmen: Judy W C Ho, Nelson N S Kung)	Trainees / Fellows
3:00 - 3:10	Opening	Francis K L Chan
	Advances in GERD and Non-cardiac Chest pain (Chairmen: Ambrose C P Kwan, W ayne H C Hu)	
3:10 - 3:40	Current management of noncardiac chest pain	John Dent (Australia)
3:40 - 4:00	H. pylori and GERD: Consensus or controversy?	Justin C Y Wu (PWH)
4:00 - 4:15	Panel discussion	
	Advances in Complications of Cirrhosis & Portal Hypertension (Chairmen: Lo Hong Y uen, Kwan W ai Keung)	
4:15 - 4:45	Variceal hemorrhage	Bruce A. Runyon (USA)
4:45 - 5:15	Coffee break	
5:15 - 5:45	Ascites & spontaneous bacterial peritonitis	Bruce A. Runyon (USA)
5:45 - 6:00	Panel discussion	
	Advances in Lower Gastrointestinal Hemorrhage (Chairmen: Francis P T Mok, Samuel P Y Kwok)	
6:00 - 6:20	Endoscopist's perspectives	Law Wai Lun (QMH)
6:20 - 6:40	Surgeon's perspectives	David T Y Lam (UCH)
6:40 - 7:00	Panel discussion	
7:00 - 9:00	Dinner, Presidential address, Prize presentation	Presidents

CME ACCREDITATION

The College of Surgeons of Hong Kong	(4 Points)
The Hong Kong College of Physicians	(3 Points)
The Hong Kong College of Family Physicians	(3 Points)
The Hong Kong College of Pathologists	(3 Points)
The Hong Kong College of Radiologists	(4 Points)
Hong Kong College of Paediatricians	(3 Points)

Hong Kong Society of Gastroenterology 20th Anniversary

Highlights of the Evening

Dr. Hui Wai Mo, *Specialist (Gastroenterology)*

EGM & AGM

Sufficient quorum available, the two meetings were smoothly conducted as scheduled. Highlights included endorsement of the proposed amendments to the Society's Constitution and election of Council Members for 2002/2004 at EGM and AGM respectively.

Talks by Invited Guests.

The Society was honoured by the presence of its Past Presidents and Founding Members: Professor GB Ong, Dr. E K Yeoh and Professor S K Lam. Stimulating talks were delivered on the history, role and future developments of Gastroenterology in Hong Kong, these together with an enlightening speech on Gastroenterology in China by Professor Xiao Shu Dong from Shanghai formed highlights of the evening.



Honorary Award

An important feature was the award of Honorary Fellowship, first of the kind to Professor Xiao Shu Dong, Director of Shanghai Institute of Digestive Disease in recognition of his distinguished achievements in gastroenterology and valuable contributions to the Society.

Video Presentation and Dinner

In commemoration of the 20th Anniversary, two VCDs containing major prominent events of the Society for the past twenty years were distributed to participants. The VCDs were sponsored by our two friends from the Industry: Astra Zeneca and GlaxoSmithKline. A display of the prominent features and photos with lively and captive narratives were given. Members enjoyed both the interesting video and the delicious dinner.

The 20th Anniversary and AGM was a great success. The Society hereby expresses its thanks to our event and VCD sponsors AstraZeneca (major); Takeda, Eisai and GlaxoSmithKline

News...

The number of elected Council Members for 2002-2004 remains at 12. Two new Council Members came into office vice two retiring Members. To enable multi-disciplinary participation, a surgeon and a radiologist were in addition coopted into the Council. Total number of Members in the Council is now 14.

The Scholarship 2001/2002 was awarded to Dr. Hui Chee Kin for overseas training in Gastroenterology in the University of San Francisco. Dr. Hui's training programme is on molecular virology of hepatitis B and C and the difference compared to those with concomitant human immunodeficiency virus infection.

The Gastrointestinal Cancer Research Project - Prevalence of hereditary cancer syndromes in the causation of young colorectal cancer in Hong Kong Chinese was completed.

Research grants were awarded to two projects on Gastro-esophageal Reflux Disease (GERD). These included a project on "Influence of H. pylori infection on management of Gastro-esophageal Reflux Disease in Hong Kong" and "Gastro-esophageal Reflux Disease in Hong Kong: Epidemiology, Pathophysiology and Treatment".

Hong Kong Society of Gastroenterology **The Secretariat**

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Welcome !!!

New Members and Fellows

Honorary Fellow

Professor Xiao Shu Dong

Director, Shanghai Institute of Digestive Disease

Fellows

Dr. Chan Lik Yuen

Department of Medicine & Therapeutics, Prince of Wales Hospital

Dr. Ho Wai Chu Judy

Department of Surgery, Queen Mary Hospital

Dr. Kwok Chong Hei Philip

Department of Radiology and Imaging, Queen Elizabeth Hospital

Dr. Wong Sau Wai Grace

Department of Medicine, Tuen Mun Hospital

Dr. Wu Che Yuen Justin

Department of Medicine & Therapeutics, Prince of Wales Hospital

Members

Dr. Chan Wai Man

Department of Medicine, Kwong Wah Hospital

Dr. Chan Kam Hoi

Medical Unit, Yan Chai Hospital

Dr. Chen Gong George

Department of Surgery, Prince of Wales Hospital

Dr. Hui Chee Kin

Department of Medicine, Queen Mary Hospital

Dr. Hung Cheung Tsui

Department of Medicine & Therapeutics, Prince of Wales Hospital

Dr. Sze Wan Chee

Department of Medicine, Alice Ho Miu Ling Nethersole Hospital