



# Hong Kong Society of Gastroenterology

August 2001

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## **Message from Dr. Yuen Hon, President**

Coming to the 20th year, this Society continues to fulfill its mission of promoting and improving gastroenterological activities in Hong Kong.

A series of successful scientific meetings were launched. General response was very good. I would like to take this opportunity to express my gratitude to the unstinting support and contribution of our fellows and members in particular those who had played an active role in organizing Society's events.

This issue of the Newsletter contains highlights of scientific meetings, I think, would be of interest to our readers. There were a number of good and enlightening articles from our colleagues in the field. These included scientific updates on current issues and development from Dr. Hsu Yau-que, Dr. Sze Wai-man and Dr. Lai Moon Sing. I would like to thank all writers for their valuable work and contributions.

Between February and May, four scientific meetings sponsored by different pharmaceutical companies were organized. These were Meeting on "Helicobacter pylori Management in the 21st Century", the Annual General Meeting and Interactive Digestive Disease Case Discussion; Second Joint Dutch-Hong Kong Society of Gastroenterology Meeting and Round table discussion on "Crucial issues in NSAIDs Gastropathies". All four meetings were well received and attended. The number of fellows and members who turned up for the general election this year was encouraging. We wish to see all of you at our AGMs and other Society functions in future.

An important upcoming event for the year will be the Third Joint Annual Scientific Meeting. This is scheduled to be held on September 21-22, 2001. Prompted by previous success, the Meeting was again organized jointly with the Hong Kong Society of Digestive Endoscopy and Hong Kong Society for Coloproctology. It is expected 200 doctors in GI Medicine, Surgery, Radiology, Pathology and many others will be attending

This Society has been enthusiastic about promoting training and research activities among our fellows and members on a wide range of important and controversial issues in gastroenterology. It is our intention that our grant recipients would serve our community with what they had learned or discovered. One way to achieve this is to have their great works published so that all of us can share their most recent findings and scientific updates.

To facilitate easy access to the information, our web site has a Newsletter page which contains these writings as well as Society news and developments.

Through providing yearly subsidy, this Society has been supportive of the activities of the Sister Society of Endoscopy Nurses such as scientific talks and meetings, training courses etc. for its members.

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## **Fading Boundary between Gastroenterology and Surgery**

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### **Dr. Szeto Ming Leung**

Chief of Service, Department of Medicine & Geriatrics  
Tuen Mun Hospital

*This is a report of an interesting clinical symposium held on 22.5.01 during the Digestive Diseases Week. The first speaker Dr. Peter Cotton mentioned that gastroenterology and surgery were very different 30 years ago. Before the era of flexible endoscopy, gastroenterology was leisurely and contemplative. The gastroenterologists were like neurologists, interested but impotent observers of pathology. The digestive surgeons, on the other hand, were authoritative and aggressive, their procedures were mainly ablative, urgent and carried considerable risk.*

The scene has changed dramatically in recent years. Gastroenterology has become more scientific, acute and effective. Much traditional "surgical turf" was being challenged as endoscopy took over the primary role in treatment of many conditions previously managed by surgeons e.g. oesophageal strictures, variceal and ulcer bleeding, foreign bodies, bile duct stones, malignant jaundice and colonic polyps. On the other hand, more surgeons were drawn into the area of surgical laparoscopy, resulting in a new breed of active "keyhole surgeons". Endoscopists and laparoscopic surgeons now look more and more alike.

However, the traditional divide between medicine and surgeon still exists in most institutions. This has resulted in problems of inter-departmental communication subsequently affecting patient care.

6 years ago, Dr. Cotton moved to the Medical University of South Carolina (MUSC) in Charleston. He developed a new organizational structure in digestive health care - a multidisciplinary Digestive Disease Centre (DDC). The centre was formed with the vision that the patient's interests should be paramount, and this can best be fostered by closer collaboration between all digestive specialists. A joint medical-surgical inpatient floor, joint clinics and procedures were designed, encouraging familiarity through physical proximity. 4 multidisciplinary specialist sections were dealing with: liver disease and transplantation, pancreaticobiliary problems, cancer and inflammatory bowel disease / motility disorder / nutrition. Each team has gastroenterologists (or hepatologists), surgeons, and a nurse co-ordinator responsible for teamwork and efficiency. A clinical research infrastructure was set up to support all of these specialists. The whole group is linked into state of the art networked communication systems. The current structure is a matrix organization which links together the "digestivists" across the traditional academic



lines, without compromising academic roots and authority. The Digestive Disease Centre has been successful. It has developed a regional, national and international reputation and its volume of clinical activities has increased more than threefold in five years.

Dr. Cotton's opinion was echoed by Dr. James Toouli of Australia when he talked about the combined gastroenterology unit in Flinders Medical Centre. The training curriculum in Flinders Medical Centre has changed from system orientated learning to problem orientated learning. The gastrointestinal service is a combined unit comprising gastroenterologists, hepatologists, digestive surgeons, interventional radiologists and nurse co-ordinators. The unit holds joint clinical programmes, joint consultations, and shared research infrastructure. Though problems still exist, including loss of identity as surgeon or physician, this model has proven to be possible with lots of benefits and few problems. Indeed, a more radical realignment may be possible towards the development of an academic group of "digestive specialists". If this new orientation and training scheme is appropriate, it must be reflected in changes in specialty examination and boards, and the professional organizations.

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## **ASGE presents highest honours**

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### **Dr. Szeto Ming Leung**

The American Society of Gastrointestinal Endoscopy (ASGE) presents its highest honors during the DDW to several distinguished members.

ASGE's highest recognition, the Rudolf Schindler Award, goes to Robert A Sanowski, professor of clinical medicine at the University of Arizona College of Medicine. His accomplishments in endoscopic research and training exemplify the standards and traditions of ASGE founder Rudolf Schindler. The Distinguished Lecturer Award goes to Professor Guido Tytgat, Professor of Gastroenterology at the University of Amsterdam. He is a well-known figure in gastroenterology. Being a versatile gastroenterologist, he is extremely active in clinical and scientific research with numerous publications. He has been invited to Hong Kong several times and several local gastroenterologists have worked under him. The Distinguished Educator Award goes to another familiar



figure, Dr Kees Huibregtze. He is a professor of gastrointestinal endoscopy at the University of Amsterdam. He is a world-renowned endoscopist. Most of the gastroenterologists in Hong Kong have witnessed his expertise in endoscopy through his demonstrations at the annual endoscopy workshop organized by the Chinese University.

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## **New Techniques - Capsule Endoscopy**

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### **Dr. Szeto Ming Leung**

At the symposium on obscure gastrointestinal bleeding, Dr. Paul Swain mentioned the latest advances on a new modality of endoscopy, the capsule endoscopy. It is a pill-sized wireless endoscope 11 x 26 mm in size which contains



**Capsule Endoscope (11mm x 26mm)**

a battery, a light source, an imaging capturing system and a transmitter. Video images are transmitted by means of radio telemetry to aerials taped to the body that allows images to be captured. The strength of the signal is used to calculate the position of the capsule in the body. Moving images from a period as long as six hours are stored on a portable recorder. After being swallowed by the patient, the capsule is propelled by peristalsis to travel the whole gastrointestinal tract. Judging from the excellent images shown by the demonstration, this form of endoscopy is going to revolutionize deep endoscopy of the small bowel and will replace Sonde enteroscopy. Capsule endoscopy is awaiting the approval by the Food and Drug Administration (FDA) and is not yet for sale in the United States.

## Highlights from Scientific Meetings

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

### Meeting on "Helicobacter pylori Management in 21st Century"

February 24, 2001 at 1:00 p.m. in Ballroom D-E, Mirama Hotel

The Meeting was chaired by Dr. Yeung Yat-wah. We were glad to have Professor Xiao Shu-Dong who came all the way from Shanghai to deliver a talk on "Helicobacter pylori and Gastric Cancer". The other two specialized topics were "New Approaches in Helicobacter pylori Eradication" and "Second Line Treatment for Helicobacter pylori" presented by Dr. Benjamin C Y Wong and Dr. Carmen K M Ng respectively from Hong Kong. 160 medical practitioners attended this meeting and participated actively in the discussions which followed the talks. The meeting, sponsored by Eisai (Hong Kong), was a successful one.



### Annual General Meeting and Interactive Digestive Case Discussion

March 29, 2001 at 7:00 p.m. in the Ballroom of Sheraton Hotel

This year's AGM and Scientific Meeting were successful and well-attended. Response to the case-study approach from the 210 participants was favourable. The discussion session was co-chaired by Dr. Yeung Yat-wah, Dr. Luk Yiu-wing and Dr. Lai Jai-yiu. The three case presentations included A Man with Per-rectal Bleeding (Caritas Medical Centre), A Lady with Ankle Swelling (Pamela Youde Nethersole Eastern Hospital) and A Man with Chronic Relapsing Diarrhoea (Princess Margaret Hospital). Three guest doctors were invited to preside over the

discussion. They were Dr. Lee Kam-cheong, Dr. Fung Wing-tak and Dr. Ng Wai-kuen. A number of questions were raised and happily answered. The attendants visited the exhibition booths set up by the six sponsors namely: Astra, BYK, GlaxoSmithKline, MSD, Takeda, Pharmacia before the presentation and during break time and talked to their representatives. It was pleasing to note participants considered the scientific meeting useful and enlightening.

### Joint Dutch-Hong Kong Gastroenterology Meeting

April 23, 2001 at 6:30 p.m. in the Crystal Ballroom of Holiday Inn Golden Mile

Following the success of the Joint Dutch-Hong Kong Gastroenterology Meeting in April last year, a second similar meeting was again organized this year. The meeting, sponsored by AstraZeneca (Hong Kong), was held on April 23, 2001. The meeting started at 6:30 p.m. with a cocktail reception. Distinguished speakers included Dr. EC Klingenberg-Knol whose talk was on "Gastroesophageal reflux disease: current approach in diagnosis and therapy" and Dr. Henk Festen speaking on "Latest developments in inhibitory drug therapy". Dr. Hui Wai-mo and Dr. Benjamin CY Wong served as the co-chairmen for the occasion. The meeting was well-attended and the 260 participants were seen taking part actively in the discussion which followed the plenary presentation.



### Round table discussion on "Crucial issues in NSAIDs Gastropathies"

May 10, 2001 in the Tang Room of Furama Hotel

Under the chairmanship of Professor S K Lam, a small group of participants met and exchanged views on crucial issues in NSAIDs Gastropathies and related areas. Three central talks were delivered. These included "Epidemiology of NSAIDs Gastropathies" by Professor D. McCarthy, "H. Pylori & NSAIDs : consensus or controversies" by Dr. Francis K L Chan and "COX-2 selective

inhibitors : final solution?" by Dr. Lai Kam Chuen. These enlightening presentations by field experts together with the very fruitful discussion which followed contribute to a successful scientific meeting for the selected group of 25 participants, a meeting sponsored by Boehringer Ingelheim (Hong Kong).

# The Role of Endoscopy in the Management of Lower GI Bleeding

## Dr Hsu Yau Que

*Dr Hsu graduated from University of Hong Kong in 1981 and received post graduate training in University Medical Unit, Queen Mary Hospital and Department of Gastroenterology, Middlesex Hospital, London. His major area of interest is therapeutic endoscopy. He is currently in private practice and is Honorary Consultant Physician at St Teresa's Hospital, Hong Kong.*



Lower GI bleeding is a commonly encountered problem in clinical practice, and in fact, 10-20% of patients presenting with hematochezia have bleeding from the upper GI tract proximal to the ligament of Treitz. Endoscopy plays a significant role in the management of GI bleeding, however, there are relatively few well controlled studies in evaluating the endoscopic management of lower GI bleeding compared with that in upper GI bleeding. Lower GI bleeding can present as chronic or acute bleeding.

Chronic bleeding indicates bleeding occurring over a long period of time, in terms of days or longer, and rarely causes hemodynamic disturbance. It can present as occult fecal blood loss, intermittent or scanty hematochezia. The common causes in chronic bleeding are large bowel tumor, polyp and hemorrhoid and one should also look for the source in upper GI tract if the investigation in lower GI is negative. In comparison with barium enema, colonoscopy is the preferred procedure in evaluating lower GI bleeding because

1. Colonoscopy can identify additional 20 -40 % bleeding lesions which appear negative on barium enema<sup>1,2</sup>. These lesions, being missed on barium enema, are mostly colonic polyp, carcinoma and angiodysplasia.

2. When a lesion is shown on barium enema, colonoscopy is usually required to confirm the diagnosis (e.g. taking biopsy of neoplasm) and, in some cases, to treat a lesion endoscopically. (e.g. thermal coagulation, injection therapy).

Acute lower GI bleeding occurs with significant amount of blood loss within a short period of time and sometimes can cause hemodynamic instability. It often occurs in the elderly who, because of frequent association with coexisting medical problems, has a high mortality rate. When hemodynamic instability happens, the first priority is to resuscitate and stabilize the patient. Insertion of nasogastric tube and examination of gastric aspirate for the presence of blood or bile would be helpful in initial evaluation. Only the presence of non bloody, bile containing aspirate indicates the bleeding site is unlikely originated from upper GI tract. Upper endoscopy should be performed whenever bleeding from upper GI tract is suspected.

To evaluate the large bowel, one may perform urgent colonoscopy, angiography or radionuclide scan depending on the facilities and expertise available in individual center.

Urgent colonoscopy is the preferred procedure because 70 - 80% of the lesions can usually be detected on colonoscopy<sup>3,4</sup> and endoscopic therapy can be offered when necessary. Performing colonoscopy in an emergency setting is technically demanding because the lumen is often filled with blood and fecal matter which obstruct the endoscopic view. Whether or not to prepare and clean the bowel before urgent colonoscopy is a controversial issue. Some endoscopists do not prefer bowel preparation because this helps identify the approximate level of bleeding source when one sees blood free feces proximally and blood clot distally in the lumen.<sup>5</sup> On the contrary, most endoscopists<sup>6</sup> prefer rapid lavage before colonoscopy, given orally or through a nasogastric tube, with 3 - 4 liters polyethylene glycol solution in 3 to 4 hours until the rectal effluent is clear. There is no evidence that colonic lavage would aggravate the bleeding nor is there any complication arising from the use of polyethylene glycol solution. A clean large bowel would facilitate the endoscopist in identifying the bleeding site and also applying various methods of endoscopic therapy (epinephrine

injection, heater probe, hemoclip, etc.) in achieving hemostasis. An urgent angiography would be an alternative in identifying the bleeding site when

- 1) facilities of urgent endoscopy is not available,
- 2) bleeding is so massive that endoscopy is not feasible,
- 3) colonoscopy fails to reveal a bleeding source. Moreover, during angiography, vasopressin can be infused and gelfoam can be embolized to the bleeding site to stop bleeding. Possible adverse effects of angiography include contrast allergy, contrast induced nephrotoxicity and vascular thrombosis.

Nuclear medicine scan plays a limited role in lower GI bleeding because of

- 1) poor localization of bleeding site,
- 2) delay in providing specific therapy and
- 3) lack of therapeutic intervention.

Surgery is the final option when bleeding persists or recurs after failure of endoscopic or angiographic therapy. It was reported that blind colectomy, without knowing the bleeding site preoperatively or intraoperatively, is associated with significant morbidity and mortality and risk of rebleeding.<sup>7,8</sup> However, identification of bleeding site preoperatively, by angiography or colonoscopy, can render the surgical resection to be limited or segmental, rather than extensive, and hence decreases the postoperative morbidity and mortality.

When the bleeding site cannot be identified in large bowel, esophagus, stomach and proximal duodenum, examination of small bowel, though a less common cause of bleeding, by enteroscopy or enteroclysis can be performed on an elective basis. However, in emergency situation with profusing bleeding, localizing the bleeding in small bowel is possible by means of laparotomy and intraoperative endoscopy.

Most studies<sup>9</sup> have found diverticulosis and angiodysplasia to be the most common causes of severe lower GI bleeding in the elderly. Other less common causes include neoplasm, radiation colitis, anal hemorrhoid, inflammatory bowel disease, ischemic colitis, infectious colitis and post polypectomy hemorrhage.

Bleeding from colonic diverticulum is usually severe because the bleeding is from an arteriole. However, it stops spontaneously in 80% cases and the rate of recurrent bleeding is 20 - 30 %. In the past, surgery is often the mainstay of treatment when medical treatment fails. Recently various forms of endoscopic treatment in diverticular bleeding, including epinephrine injection<sup>10</sup>, heater probe<sup>11</sup>, bipolar coagulation<sup>12</sup> and hemoclip<sup>13</sup> were reported. Jensen analysed a total of 121 patients with severe hematochezia and evidence of diverticulosis on colonoscopy during the period 1986 to 1998, comparing between medical (conservative) and endoscopic treatment, on the outcome of re-bleeding risk and the need for surgery<sup>14</sup>. The author treated the active bleeding by epinephrine injection to achieve hemostasis. If pigmented protuberance appeared on the edge or at the base of diverticulum, the author applied bipolar probe for 1 sec pulse duration at a low power setting and with light pressure to coagulate the vessel. This experienced center reported no significant complication and their result showed endoscopic treatment, compared with medical treatment alone, greatly decreased the re-bleeding risk, the need for surgery and shortened the stay in hospital.

Bleeding from colonic angiodysplasia is usually self limited and intermittent. The bleeding can be mild or severe. Thermal coagulation, through heater probe or bipolar probe, using a low power setting with light touch to the lesion, is often effective in achieving hemostasis<sup>9</sup>. The main risks of the procedure are perforation, delayed bleeding and post coagulation syndrome.

Post polypectomy hemorrhage can occur immediately or be delayed. The immediate bleeding after polypectomy can be controlled by re-snaring the residual pedicle for 5-10 minutes. If bleeding recurs on re-opening the snare, the snare should be re-tightened and the pedicle coagulated if necessary. Delayed bleeding is usually due to bleeding from cautery ulcer and is usually self limited. Epinephrine injection combined with electrocoagulation is often effective in achieving hemostasis<sup>9</sup>.

Bleeding from colonic neoplasm, inflammatory bowel disease, infectious colitis are usually self limited. Endoscopic therapy can be applied accordingly and individually.

In summary, in lower GI bleeding, urgent colonoscopy after oral purge is often effective in identifying the bleeding site and achieving endoscopic hemostasis when necessary. Various methods of endoscopic hemostasis were reported and successful hemostasis often decreases the re-bleeding risk and the subsequent need for emergency surgery. In cases when no colonic source is identified, evaluation of upper GI and small bowel will be necessary. Figure 1 shows the algorithm prepared by the American College of Gastroenterology in the management of acute lower GI bleeding.<sup>15</sup> This algorithm can be applied in majority of cases and the order of procedure may be altered in some individual situation accordingly.

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12. Savides T, Jensen DM Colonoscopic hemostasis of recurrent diverticular hemorrhage associated with a visible vessel: a report of three cases. *Gastrointest Endosc* 1994;40:70-3.

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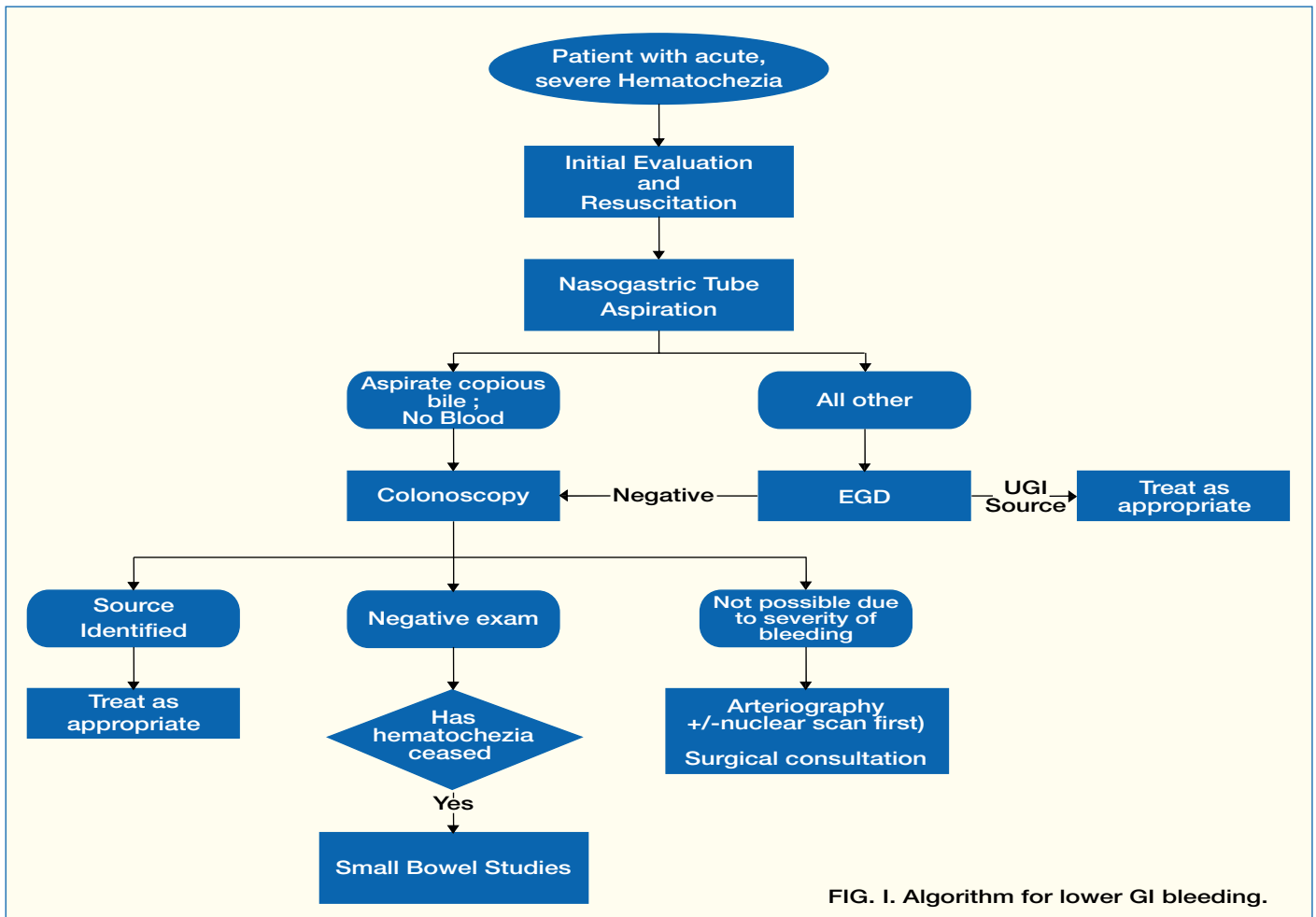


FIG. I. Algorithm for lower GI bleeding.

# Adjuvant treatment for rectal cancer

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## Introduction

Rectal cancer is the 6<sup>th</sup> most frequent cancer in Hong Kong. In 1996, there were 1078 new cases and 431 people died of this disease<sup>1</sup>.

The mainstay of treatment for rectal cancer is surgery. Although cure can be achieved by surgery alone, recurrence is not an uncommon event after a "curative" operation<sup>2-4</sup>.

Various approaches have been devised to improve the treatment outcomes of rectal cancer. These include new surgical methods<sup>5</sup> and use of adjuvant treatment. However, there are lots of controversies concerning the extent of the surgery and the use of adjuvant treatment for different surgical approaches. In this article, we focus on the use of adjuvant treatment especially its integration with conventional surgery and total mesorectal excision.

## Adjuvant treatment for conventional surgery (low anterior resection or abdomino-perineal resection)

### (I) Chemoradiation

Adjuvant chemoradiation is currently the standard treatment option for stage II-III patients in USA<sup>6</sup>. The evidence supporting this approach is summarised in Table 1. As shown

**Table 1: Randomised studies on adjuvant chemoradiation**

	Selection	Scheme	Patient No.	Local failure	Distant failure	Survival
EORTC <sup>7</sup>	T2-4NxM0	PreopRT	121#	15%	Liver 17%	46%##
		PreopRT + 5FU	126#	15%	Liver 8%	59%
GITSG <sup>8,9</sup>	Stage II - III	Surgery	58	24%	34%	43%
		Postop RT + 5FU + methy1CCNU	46	11%	26%	59%
NCCTG <sup>10</sup>	Stage II - III	Postop RT	100	25%	46%	47%
		Postop RT + 5FU + methy1CCNU	104	13.5%	28.8%	58%
NARCPG <sup>11</sup>	Stage II - III	Surgery	70	30%	39%	64%
		Postop RT + 5FU	66	12%	33%	50%

#27% patients were excluded due to various reasons

##p=0.06

EORTC = European Organization on Research and Treatment of Cancer

GITSG = Gastrointestinal Tumor Study Group, NCCTG = North Central Cancer Treatment Group

NARCPG = Norwegian Adjuvant Rectal Cancer Project Group

by the table, besides the EORTC study<sup>7</sup>, adjuvant chemoradiation<sup>9-11</sup> has consistently decreased recurrence and improved the overall survival.

Although postoperative chemoradiation is more popular in USA<sup>16</sup>, the relative merits and disadvantages of post-operative versus preoperative chemoradiation is causing much debate. Preoperative chemoradiation has the advantages of decreasing tumour seeding during surgery, less acute toxicity, increasing radiosensitivity and possibly enhancing sphincter preservation. There are three large randomised studies addressing this issue. Two studies were performed in United States (Intergroup 0147 and NSABP R-03) and one was in Europe (German CAO/ARO/AIO 94). Unfortunately, the accrual of the two trials in United States is poor. The Intergroup-0147 was closed prematurely because of poor accrual. The other study NSABP R-03<sup>17</sup> only recruited 116 patients after 3 year accrual. With the target of 900 patients, this study is unlikely to be completed in a very short time. Preliminary data of the 116 patients from NSABP R-03 showed that preoperative chemoradiation were at least as safe and tolerable as standard postoperative treatment. Long term results from these randomised studies are eagerly awaited.

## Preoperative radiotherapy

There are substantial differences in treatment

philosophy between USA and some European countries<sup>18-21</sup>. Besides chemoradiation, a short intensive course of preoperative radiotherapy without chemotherapy is also a prevalent practice in Europe.

Although a recent metaanalysis<sup>22</sup> showed survival advantage in patients receiving preoperative radiotherapy, several observations can be made from individual trials. Firstly, there is no benefit from low dose preoperative radiotherapy<sup>23-26</sup>. For most studies with moderate dose radiotherapy<sup>27-34</sup>, the local control is improved, but this improvement does not translate into survival benefit. The only exception is the Swedish Rectal Cancer Trial (SCRT)<sup>35</sup>. In this study, a 10% survival benefit was demonstrated by giving a short intensive course of radiotherapy.

Secondly, these studies well demonstrated the potential disadvantage of preoperative therapy i.e. possibly overtreating patients who do not require therapy, such as patients with stage I disease. Up to 30% of patients in these studies have stage I disease. Lastly, the treatment morbidity is highly dependent on the radiotherapy technique and fractionation. For studies using 2 fields technique and hypofractionation (> 2 Gy/fraction), the morbidity and even mortality are higher. This point is well illustrated by Swedish Rectal Cancer Trial. In this study, for patients irradiated by two fields, the in-

hospital mortality was considerably higher than those irradiated by 3-4 fields (15% vs 3% p<0.001). Even when multiple fields are used, data from various studies<sup>36-40</sup> suggested that the damage by hypofractionation may still not be fully compensated. A survey<sup>37</sup> of 220 five year survivors in the Swedish Rectal Cancer Trial showed that the irradiated group had higher rates of incontinence, urgency and emptying difficulties. Thirty percent of irradiated group had an impaired social life because of the bowel dysfunction compared with 10% of the surgery alone group. The anastomotic leak and wound infection rate were also reported to be higher in some series<sup>38,39</sup> using the SCRT radiotherapy scheme. In addition, there is also evidence that the hypofractionation may cause lumbosacral plexopathy<sup>40</sup>.

Although a short intensive course of preoperative irradiation is more convenient and less expensive, this approach is not widely practiced in USA. The major reasons include (1) potentially higher complication rates because of the hypofractionation (>2 Gy per fraction), (2) chemotherapy was not used, the problem of micrometastasis is not effectively dealt with and (3) surgery in Swedish Rectal Cancer Trial was performed one week after the radiotherapy, there is inadequate time for the tumour shrinkage<sup>41,42</sup> and hence, the purpose of sphincter preservation may not be fulfilled.

**Conclusion:**

In summary, adjuvant treatment should be recommended to all stage II-III patients treated by conventional surgery. Adjuvant chemoradiation and Swedish type preoperative radiotherapy are two alternatives proven to improve survival. However, chemoradiation may be a preferable alternative because theoretically, the micrometastases can be taken care by the chemotherapy and the potential damage caused by hypofractionation in Swedish type preoperative radiotherapy can be avoided.

**Total mesorectal excision (TME) - is adjuvant treatment still necessary?**

Local recurrence remained a serious problem after conventional surgery for rectal cancer. Histopathological studies<sup>43,44</sup> suggested that local failure might be due to inadequate lateral clearance.

Total mesorectal excision<sup>45</sup>, a precise meticulous sharp dissection around the integral mesentery of the hindgut can remove the rectum and the mesorectum en bloc. By doing this, a much wider circumferential margin can be achieved. A number of single institution experience<sup>46-48,50,51</sup> showed that the local recurrence could be

mesorectal excision.

There are no randomized trials comparing total mesorectal excision with conventional surgery or conventional surgery with adjuvant treatment. The only ongoing randomized study is coordinated by the Dutch Colorectal Cancer Group. This study<sup>54</sup> compares total mesorectal excision with Swedish type preoperative radiotherapy followed by total mesorectal excision. It is designed to test a 5% reduction in local recurrence by adjuvant radiotherapy. As this study involved more than 90 hospitals in different countries, its results can be viewed as a test of reproducibility of the experience by single institution. 900 patients were already randomized. The preliminary results of the first 500 Dutch patients are interesting. Of 250 patients in the TME alone arm, 22% had residual disease (11% microscopic, 11% gross), 12% had involved circumferential margins and 30% required abdominoperineal resection. According to the protocol, patients with residual disease will be subject to postoperative radiotherapy i.e. at least 22% of patients in the TME alone arm required adjuvant postoperative radiotherapy. The abdominoperineal

Group will define the impact of additional radiotherapy.

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**Table 4: Studies comparing TME with conventional surgery**

	Study type	Control population	Stage	% with adjuvant treatment (TME vs control)	Local failure (TME vs control)	All failure (TME vs control)	Survival (TME vs control)
MacFarlane et al	Retrospective	NCCTG chemoRT arm	II-III	0% vs 93%	5% vs 13.5%	22% vs 41.5%	NR
Kockerling et al	Retrospective	91 vs 74	I-III	0% vs 0%	10% vs 39%	No change	50% vs 71%
Dahlberg et al	Retrospective	85-95 vs 80-84*	All	77% vs 64%	13% vs 12%	NR	44% vs 51%
Havenga et al	Retrospective	MSKCC vs NHH vs Norway vs CCCW**	II-III	(62% RT, 22% C) vs (3% RT, 8% C) vs (9% RT) vs (57% RT, 4% C)	9% vs 4% vs 42% vs 39%	NR	70% vs 62% vs 44% vs 42%
Martling et al	Retrospective	95-96(post TIME workshop) vs Stockholm I vs Stockholm II	I-III	54% vs 49% vs 49%	6% vs 15% vs 14%	NR	9% vs 15% vs 16%##

#3 patients refused treatment, 5 only received 1 cycle of chemo, no chemoRT was given

\*TME introduced during 85-95. TME performed in 76% of patients during this period

\*\* MSKCC and NHH - TME, Norway, CCCW - conventional surgery

## death from rectal cancer

C= chemotherapy

RT = Radiotherapy

MSKCC = Memorial Sloan Kettering Cancer Center

NHH = North Hampshire Hospital

CCCW = Comprehensive Cancer Center West

lowered to typically less than 10%. There are a few retrospective studies<sup>49-53</sup> showing that this surgical approach is better than conventional surgery with or without adjuvant therapy (table 4).

This raised the question whether "is adjuvant treatment still necessary after mesorectal excision". Although the treatment results are impressive, a few issues are needed to be addressed before we can conclude adjuvant treatment can be omitted after total

resection rate and proportion of patients who required adjuvant treatment are apparently higher than that reported by North Hampshire Hospital<sup>48</sup>. The long term results of this study will certainly give us more information on total mesorectal excision.

**Conclusion:**

The results after TME are encouraging. Ongoing study by Dutch Colorectal Cancer

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## Sphincterotomy Vs Balloon Sphincteroplasty in CBD Stones

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### **Introduction**

The first endoscopic retrograde cholangiopancreatography (ERCP) was performed in 1968. Endoscopic sphincterotomy (EST) was introduced in 1974 as a surgical technique enabling removal of bile duct stones and facilitated therapeutic intervention for common bile duct stones. It is estimated that approximately 150,000 ESTs are performed annually in the United States - in the majority of cases to allow removal of bile duct stones, but also to facilitate other therapeutic procedures.

### **Endoscopic Sphincterotomy (EST)**

The procedure involves selective cannulation of common bile duct by a sphincterotome, followed by cutting of sphincter of Oddi using either cutting current alone or cutting current in conjunction with coagulation current. After several modifications, it becomes the treatment of choice for removal of bile duct stones. The main advantage of EST is that it has stood the test of time and most therapeutic endoscopists are familiar with the technique as well as complications of the procedure. In experienced hands, it can be performed with relative ease and safety in a short span of time. The success rate for EST exceeds 90% with the clearance of biliary tree in 80-90% of cases.



### **Complications of Endoscopic Sphincterotomy**

Despite these advantages, EST has the dubious distinction of being the most hazardous of all ERCP procedures and its efficacy is counteracted by its significant short term and long-term complications.

Acute complications occur in 8-12% of patients with EST. They

include bleeding (2%), retroperitoneal perforation (0.5%), pancreatitis (5%) and cholangitis and 30 days procedure related mortality of 0.5-1%. The complication rate is, however, lower (4.9%) when sphincterotomy is performed for the removal common bile duct stones<sup>1</sup>.

Little is known about the long-term effects of the loss of the biliary-sphincter function after EST. Duodenocholedochal reflux, bacterial contamination of the biliary tract, and low-grade inflammation have been described. Their clinical importance is uncertain although concern has been expressed especially in younger age group that this sequence of events may lead to recurrent biliary problems in 10-24% of patients after EST including sphincter stenosis, stone recurrence, recurrent ascending cholangitis, or even malignant degeneration.

Two methods were thus invented as alternatives to EST. They include balloon dilatation of the papilla of Vater (sphincteroplasty) (EBD) and use of drugs e.g. nitrate to relax the sphincter of Oddi, popularly known as medical sphincteroplasty. This article will concentrate on the discussion of EBD only.

### Endoscopic Balloon Sphincteroplasty (EBD)

EBD of the biliary sphincter to allow extraction of bile duct stones was first described by Staritz et al. in 1983<sup>2</sup>. During EBD, a guide-wire is passed into the common bile duct after performing ERCP. Thereafter, a biliary dilatation balloon with a maximum inflated outer diameter of 8-10 mm and with length of 2-3 cm is passed over the prepositioned guide-wire and placed in the bile duct opening. With the sphincter over the mid-portion of the balloon, it is inflated with diluted contrast over 1-2 minute under fluoroscopic and endoscopic control. The sphincter is judged to be adequately dilated if the "waist" in the balloon has completely disappeared under fluoroscopy. The fully inflated balloon is maintained in position for 1-2 min to stretch the biliary sphincter and then removed with the guidewire. The calculi are then removed with the help of a Dormia basket, stone-retrieval balloon or crushed by a mechanical lithotripter.

The main theoretical advantage of this technique is that it does not involve cutting of the biliary sphincter. Acute complications, especially bleeding, may be less likely. EBD also preserves the function of the biliary sphincter and thus prevents the speculated long-term complications of EST.

Technically, EBD is simpler and learning curve is steep. Fluctuation in patient respiration or duodenal contractility has minimal impact on procedure once the balloon is correctly positioned.

### Efficacy and Limitations of EBD

After introduction in 1983, further development of EBD stalled in mid-1980s, when the study of Koreak RA et al. (1988) showed that EBD was associated with an unacceptable high risk for pancreatitis<sup>5</sup>. The introduction of laparoscopic cholecystectomy in early 1990s had increased the number of young patients being referred for EST and stone removal. The unknown long-term effects of ablation of the biliary sphincter after EST lead to the reevaluation of EBD as a possible alternative. Since then several uncontrolled studies have shown that EBD is an effective and safe endoscopic method for removal of bile duct stones without increase risk of pancreatitis. Bergman et al. (1997) conducted the first randomized trial of endoscopic balloon dilatation versus endoscopic sphincterotomy for removal of bile duct stones<sup>4</sup>. The study confirmed that the overall success rate of EBD was similar to that of EST at approximately 90%.

The lesson to be learned from these series is that in patients with smaller (<1cm) and fewer (<3) bile duct stones, EBD nearly always allows successful stone removal. In patients with larger or multiple stones, the bile duct can be successfully cleared in the majority of patients after EBD, but mechanical lithotripsy is required in about 31-50% of patients, compared with 13% following sphincterotomy. An additional sphincterotomy or repeat ERCP is needed in 15-30% of patients.

### Complications of EBD other than Pancreatitis

Overall, there are slightly fewer early complications with EBD (17%) than with EST (24%) although this difference was not statistically significant.

Bleeding has been reported in 2-5% if patients undergoing EST for bile duct stones. In contrast, no significant bleeding has been observed after EBD in a total of over 550 reported patients, including those with high risk of bleeding. This suggests that EBD is particularly suitable for patients with an increased risk of bleeding.

With respect to long-term complications, there were significantly fewer episodes of acute cholecystitis among patients undergoing EBD after follow-up for six months in Bergman study. The authors speculate that duodenal biliary reflux may precipitate gallbladder infection in patients following sphincterotomy, whereas sphincter function may have recovered after balloon dilatation.

### Pancreatitis after EBD

All published studies have failed to show a significantly increased rate of pancreatitis after EBD compared to EST. The combined rate of pancreatitis after EBD is 5.7%, which is comparable to that after EST.

However, the recent EDES (Endoscopic Balloon Dilatation versus Endoscopic Sphincterotomy) study has modified the initial enthusiasm about EBD<sup>6</sup>. In this multicentre randomized trial, inclusion was limited to pericholecystectomy patients with bile duct stones smaller than 10 mm. It is important to realize that the study population have exactly the characteristics which, in theory, would make it the most suitable population for EBD: relatively young patients with smaller bile duct stones that allow for easy and effective stone removal after EBD.

In EDES study, it was found that the rate of pancreatitis after EBD was found to be significantly higher than that of EST (11% Vs 1%) with four cases of severe pancreatitis resulting in two deaths. The contrasting finding of EDES study may be a result of the selection of patients. It is conceivable that in repeated cannulation pancreatic duct before a difficult diagnostic cholangiogram increases the risk of pancreatitis even more in comparison with EST. The higher rate of pancreatitis may therefore be due to the combination of difficult cannulation and balloon dilatation, and not just to the balloon dilatation itself.

### Conclusion

In summary, the choice between EBD and EST for the removal of the bile duct stones is currently not an issue in most patients. EST is the well-accepted and well-documented procedure of choice for common bile duct stones, whereas experience with EBD is relatively limited, and important issues - especially the risk of pancreatitis - remain unclear. The theoretical advantage of sphincter preservation after EBD, which is particularly applicable to young patients, is currently outweighed by the suggested increased risk of pancreatitis in these patients.

At present, EBD may have a limited role in the old patient with common duct stone(s) having coagulopathy or other risk factors for bleeding. In addition, EBD may prove a valid option in patients in whom the local anatomy makes a sphincterotomy impossible or dangerous e.g. patients with periampullary diverticula or Billroth II gastrectomy.

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# MAJOR MEETINGS

## 19th Brazilian Congress of Coloproctology 19 Congresso Brasileiro de Coloproctologia Rio de Janeiro, Hotel Inter-Continental Rio September 4-7, 2001

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## EHPSC, 14th Workshop of the European Helicobacter Pylori Study Group on Gastroduodenal Pathology and Helicobacter Pylori Strassbourg September 5-8, 2001

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## 56th Meeting of the German Society for Digestive and Metabolic Disease September 12-15, 2001

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**Venue:** Furama Hotel, Hong Kong      **Date:** September 21-22, 2001  
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### Main topics include:

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- Improving outcomes for endoscopy
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- Management of colorectal cancer:  
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- Genetic diagnosis and its implications
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#### Advances in the Management of Hepatitis B Infection

- HBeAg-negative chronic hepatitis B infection
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**Deadline for submission of abstracts is August 31, 2001**

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