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Highlights of the 48th Seminar of Korean Society of Gastrointestinal Endoscopy

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This special May issue of *Clinical Endoscopy* discusses the tutorial contents dealing with either the diagnostic or therapeutic gastrointestinal (GI) endoscopy that contain very fundamental and essential points in this field. The seminar of Korean Society of Gastrointestinal Endoscopy (KSGE) had positioned as one of prime educational seminars covering the very beginner to advanced experts of GI endoscopy. Besides of four rooms allocated for each lecture, two additional rooms were open for either live demonstration or hands-on course, covering totally 20 sessions including one special lecture. Among these prestigious lectures, 12 lectures were selected for the current review articles in this special issue of *Clinical Endoscopy* journal. Basic course for beginner to advanced tips to expert were all covered in this seminar. This introductory review prepared by four associated editors of *Clinical Endoscopy* contained core contents divided into four sessions-upper gut, lower gut, pancreaticobiliary, and specialized topic session part-to enhance understandings not covered by enlisted review articles in this issue.

Key Words: Clinical endoscopy; Seminar; Hands-on course; Highlight

INTRODUCTION

THE PAST AND PRESENT OF THE SEMINAR OF KOREAN SOCIETY OF GASTROINTESTINAL ENDOSCOPY

Around 30 years ago, a few colonoscopy was performed per day in even big university hospitals in Korea. With advancement in instruments and technologies, roughly 20 to 40 times larger number of colonoscopy per day are being executed in even second or third order hospitals nowadays. Similar to this development, 25 years ago, an interesting group seminar was first launched in Korean Society of Gastrointestinal Endoscopy (KSGE) to share idea and knowledges. This seminar of 200 attendants at that time has now become big semi-

nar to cover more than 4,000 attendants covering 80 lectures in addition to live demonstration and colonoscopy hands-on course. The official journal of our society also takes changes into English version from Korean written and included in world famous dbase journal. The editors decided to issue a special issue to cover some review articles from society delegates and 12 review articles were selected to be published. Prof. Myung Hwan Kim (Asan Medical Center, University of Ulsan College of Medicine, Seoul) and Prof. Sang Young Seol (Inje University Busan Paik Hospital, Inje University College of Medicine, Busan) served as the chairman and congress president of 48th Seminar of The KSGE 2013, respectively, and they fortified educational importance of gastrointestinal (GI) endoscopy either to foster young endoscopists or to strengthen information in the field of digestive endoscopy (Figs. 1 and 2).

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HIGHLIGHTS OF UPPER GI ENDOSCOPY SESSIONS

In this 48th Seminar of KSGE, there were four sessions dealing with basic courses for endoscopy beginners, two sessions covering advanced courses for expert in endoscopy, and a live

demonstration course for upper endoscopy cases. The session titles of the basic courses are: 1) starting upper endoscopy; 2) early gastric cancer (EGC), how to look at it in right way?; 3) findings easily missed at upper endoscopy; and 4) in-depth discussion about the lesions which need special attention for differentiation. We have two advanced courses for upper endoscopy in this seminar, which are entitled as 5) esophageal stent and 6) endoscopic submucosal dissection (ESD) update. Brief summaries of the upper GI sessions in the 48th Seminar are presented here.

Starting upper endoscopy

It is important to learn very basic aspects of upper endoscopy including stomach anatomy, endoscopic views during



Fig. 1. The 48th Seminar of Korean Society of Gastrointestinal Endoscopy, editorial staffs for special issue, From left, Prof. Il Ju Choi (National Cancer Center), Prof. Kwang An Kwon (Gachon University Gil Medical Center), Ms. Ha Young Park, and Prof. Ki Baik Hahm (CHA Bundang Medical Center CHA University).

observation, localization tips for various parts of the stomach and duodenum. Although the accuracy of biopsy specimen for making diagnosis is not 100%, it can complement the endoscopic diagnosis. Taking biopsy is the main part of diagnosis for gastric cancer and its strategy in EGC should be different. In contrast to obtaining traditionally six or more pieces of biopsy specimens for accurate diagnosis of advanced gastric cancer, EGC lesions were recommended to be biopsied in fewer pieces. After endoscopy examination, description of the esophagogastroduodenoscopy (EGD) finding and photos should be objectively recorded. That information can be a good data for further treatment planning, discussion with patient or doctors, follow-up evaluation, and especially communications between physicians in referral setting. Nowadays, conscious sedation induced not by an anesthesiologist but by an endoscopist is common in Korean endoscopy units. The safety of the procedure, however, is continuously questioned, and it drew public attention due to recent media reports emphasizing major complications including mortality. Although there's some limitation in quality of image of transnasal endoscopy, many local clinics are increasingly using the device. Thorough presentation including premedication, anatomy, insertion, complications, and limitations were made. In advanced setting of transnasal endoscopy, possible application of transnasal approach in endoscopic retrograde cholangiopancreatography (ERCP), percutaneous endoscopic gastrostomy, motility evaluation, and ESD were also discussed.

EGC, how to look at it in right way?

The topics included in the session were "good way to taking



Fig. 2. The 48th Seminar of Korean Society of Gastrointestinal Endoscopy, whole members of organization committee. From left, Dae Young Cheung (Yeouido St. Mary's Hospital, The Catholic University of Korea College of Medicine), Ja Seol Koo (Korea University Ansan Hospital), Don Haeng Lee (Inha University Hospital), Eun Young Kim (Daegu Catholic University Medical Center), Young Soo Moon (Inje University Haeundae Paik Hospital), Ho Gak Kim (Daegu Catholic University Medical Center), Seok Reyol Choi (Dong-A University Hospital), Chang-Hun Yang (Dongguk University Gyeongju Hospital), Myung-Gyu Choi (Seoul St. Mary's Hospital, The Catholic University of Korea College of Medicine), Sang Yong Seol (Inje University Busan Paik Hospital), Chang Duck Kim (Korea University Anam Hospital), Young-Tae Bak (Korea University Guro Hospital), Sung Koo Lee (Asan Medical Center, University of Ulsan College of Medicine), Ki Baik Hahm (CHA Bundang Medical Center, CHA University), Il Kwun Chung (Soonchunhyang University Cheonan Hospital), Yong-Tae Kim (Seoul National University College of Medicine), Seok Ho Dong (Kyung Hee University School of Medicine), Eun Taek Park (Kosin University Gospel Hospital), Chang Hwan Park (Chonnam National University Hospital), Chang Hwan Choi (Chung-Ang University Hospital), Bo-In Lee (Incheon St. Mary's Hospital, The Catholic University of Korea College of Medicine).

photos, obtaining specimens, and making reports in EGC,” “indefinite or confusing situations in endoscopic and pathologic findings,” “finding EGC on potentially blind angles,” and “treat the EGC separately and together: endoscopic and surgical resections.” Nowadays, 2-year interval gastric cancer screening using EGD is provided to almost every Korean population over aged 40 years. Thus, it became very important not to miss any EGC. Due to the nature of this disease accompanying very subtle mucosal changes, it is important to be well-acquainted with the EGD finding of EGCs for every endoscopists in Korea. In this session, basic aspects of upper endoscopy emphasizing EGC were presented including taking photos, getting biopsy specimen, appropriate terminology for describing the EGC lesion, and differential diagnosis. Decision making in difficult cases including the discrepancy between endoscopic diagnosis and pathological diagnosis was discussed. In the third topic of the session, special tips on how to not miss EGCs in difficult locations were provided. Recently introduced endoscopic and surgical options for treating EGCs were discussed. New experimental approach in Korea, which is combining both the modalities of hybrid natural orifice transluminal endoscopic surgery and ESD with sentinel node navigation surgery, were also introduced.

Findings easily missed at upper endoscopy

Four topics were presented about “larynx and pharynx,” “esophagus,” “stomach,” and “duodenum.” Among the presentation, we invited a review article about the laryngeal and pharyngeal lesions in this issue of clinical endoscopy.¹ The laryngopharynx is a structure that must be passed through during upper endoscopy. If the area is examined in detail during endoscopy, 0.9% to 3.5% of all tests may display abnormal findings in that area.¹ Because laryngopharyngeal lesions are considered as a field of otolaryngology, endoscopists usually pay less attention during the upper endoscopic examinations. The author reviewed the availability of upper endoscopy in laryngopharyngeal area, normal structures of the part, and the lesions that can be found during upper endoscopy, including inflammatory lesions such as laryngopharyngeal reflux diseases, caustic damages, and fungal infection usually due to candidiasis. Neoplastic lesions including laryngeal cancer and hypopharyngeal cancer are often encountered.

Esophageal stent

Stents can provide effective palliation for malignant obstruction and can be an effective treatment option for benign conditions in the esophagus. Several stent types are available in the market, and most important factor that should be considered is the presence of membrane, i.e., covered or bare metal stent. There is no current guideline on which type of

stent is appropriate for each condition. However, endoscopists should consider: 1) expected stent duration, 2) benign versus malignant obstruction, 3) location of the stricture, and 4) patient condition and expected survival. For benign stricture, stent should be temporarily applied to dilate stricture or closure of fistula. Thus, covered stent should be considered to prevent fibrosis or granulation tissue overgrowth, which makes stent removal very difficult. For malignant stricture, stent can be applied for palliation of obstruction either from esophageal cancer or extrinsic malignant compression, for bridge to surgery, or for the treatment of tracheoesophageal fistula. Currently available self-expandable metallic stents (SEMSs) are easy to apply and have very good efficacy for those purposes. Most common types of esophageal stents are designed for mid esophageal stricture. Thus, there are several stents with special design to prevent reflux for gastroesophageal junction cancer and to prevent irritating discomfort at upper esophageal cancer near sphincter. Migration and restenosis are the most common late complications after stent insertion into the GI tract. Chemotherapy alone or with radiation therapy are common practice for inoperable cancers. Chemotherapy response may affect stent patency rate by delaying restenosis or by promoting migration after marked improvement of the obstruction. Current evidences suggest prolonged stent patency and migration after chemotherapy, especially for covered SEMS, are expected for both esophageal cancer and gastric cancer with outlet obstruction. However, those effects are still controversial for colorectal cancer.

ESD updates

Nowadays, ESD for EGC is a relatively common modality for treating EGC without any risk of lymph node metastasis in Korea and are considered to be equivalent to the outcome of gastrectomy. The stomach is usually saved and, as a consequence, the quality of life does not deteriorate after the procedure. Currently, expanded indication was suggested to bring the technique to more EGC patients without the risk of nodal metastasis. However, in contrast to the Japanese guideline, current Korean data suggest that there's some risk of lymph node metastasis although usually less than 1%. Long-term follow-up data are also still lacking especially compared to those of surgery within the same criteria. Thus, further multicenter data about the nodal metastasis and long-term survival are strongly anticipated to confirm current criteria or to suggest a new one.

Another important problem is that current endoscopic estimation on whether EGC lesion is within the expanded criteria is not so reliable, and interobserver variation is quite substantial with very low kappa-statistic value. Noncurative resection or resection beyond the indication, however, may

impose the risk of lymph node or other distant metastasis, which results in loss of the opportunity for complete cure of the disease. Heo and Jeon² suggested the definition of non-curative resection by reviewing current guidelines for endoscopic resection. Surveillance and treatment options after noncurative resection based on the currently available evidences are also suggested. Surgical treatment is considered as the main option, but other treatment modalities including additional endoscopic resection or argon plasma coagulation may be recommended depending on the patient's general condition, underlying diseases and age, especially in those who refuse surgery.

HIGHLIGHTS OF LOWER GI ENDOSCOPY SESSIONS

The 48th Seminar of KSGE overflowed with interesting topics that can be encountered by endoscopists with varying backgrounds and degrees of experience including primary physicians. Basic colonoscopic techniques and the latest knowledge and know-hows from experts were discussed. There were four very informative sessions on the lower gut part, consisting of: 1) for high quality, patient-tailored colonoscopy, 2) difficult problems we encounter in the colonoscopic polypectomy, 3) all endoscopy in inflammatory bowel disease (IBD), and 4) interesting cases in lower gut disease. Here, I provide a brief summary of the distinguished contents on the lower gut part in the 48th Seminar.

FOR HIGH QUALITY, PATIENT-TAILORED COLONOSCOPY

Patient-tailored bowel preparation

Bowel preparation is inadequate for approximately 25% of patients undergoing colonoscopy. Effective colonoscopy requires adequate bowel cleanliness as a basic component. Some patients are afraid of taking traditional polyethylene glycol (PEG) because of its taste or large volume. Instructing each patient on the impact of proper bowel preparation is important. Appropriate methods based on the condition of each patient and new drugs have been studied constantly. A low fiber diet is an independent predictor of adequate bowel preparation. Improved bowel cleanliness does not result from routine use of enemas or prokinetics in addition to oral bowel preparation. In general, a split method of 4 L PEG solutions on the day before and the day of colonoscopy is recommended and valid alternatives are 2 L PEG plus ascorbic acid or 2 L sodium picosulphate plus magnesium citrate. In terms of safety concerns, PEG-based bowel preparation is still advisable in most situations.

Patient-tailored sedation for colonoscopy

First, all patients should have an estimate of their risk classification as developed by the American Society of Anesthesiologists before colonoscopy.³ Individuals responsible for administration of sedation analgesia to patients should understand the pharmacology of the agents that are administered, as well as the role of pharmacologic antagonists for opioids and benzodiazepines. All patients undergoing sedation/analgesia should be monitored by pulse oxymetry with appropriate alarms.³ Moderate degree of sedation has to be induced at the target of sedation and analgesia for performance of colonoscopy. A combination of sedative and analgesic agents may be administered as appropriate for the procedure to be performed and the condition of the patient. The medication typically used in current practice is the combination of narcotic and benzodiazepine. The combination of parenteral midazolam and propofol is the most common sedative agent for endoscopy in Korea.

Prediction and overcoming difficult colonoscopy

Factors that influence the technical success of colonoscopy are female sex, older age, lower body mass index, obesity, previous abdominal surgery, diverticulosis, and patient pain, which generally acknowledged predictors suggestive of difficult colonoscopy. Various methods have been attempted in the effort to overcome difficult colonoscopy, including application of pressure to the abdomen, changing patient position, and use of various devices and special scopes, such as the variable-stiffness colonoscope, gastroscope, pediatric colonoscope, and enteroscope.^{4,5}

Transparent cap-assisted colonoscopy is also useful. However, the skill and level of training of colonoscopists and personal experiences are the most important factors affecting the technical aspects of cecal intubation rate and cecal intubation time.

Colonoscopy in patients with chronic disease or who are taking antiplatelet/anticoagulation agents

Endoscopists are frequently faced with balancing between the added bleeding risk associated with these agents and potential thromboembolic complications that might occur when these treatments are discontinued. Management of anticoagulant and antiplatelet therapy in the colonoscopy remains a difficult area.

The American Society for Gastrointestinal Endoscopy has published guidelines on this management.⁶ Above all, cooperation is needed between an endoscopist and a physician who prescribed these agents.

DIFFICULT PROBLEMS WE ARE CONFRONTED WITH IN COLONOSCOPIC POLYPECTOMY

Difficulty snaring due to the morphology or location of the polyp

Polyps larger than 15 mm, having a large pedicle, flat and/or laterally spreading, difficult to see or located in the cecum or any angulated portion of the colon should always be considered difficult.⁷ Difficult colon polypectomy should be attempted after having familiarized with the basic technique. Difficult colon polypectomy should be performed in accordance with careful planning after complete observation and diagnosis of lesions. According to the type and characteristics of various snare and transparent cap being developed, their proper use in difficult colon polypectomy can be helpful.

Management of incomplete colonoscopic polypectomy

It is not uncommon that residual tumor remains from incomplete colonoscopic polypectomy.⁸⁻¹⁰ It is likely to increase the risk of incomplete colonoscopic polypectomy especially when the polyp is removed using biopsy forceps, piecemeal in large sized polyp, and identification of the margin of the lesion is difficult. Immediate treatment of the residual lesion by coagulation or various resection methods is preferable when the possibility of incomplete resection is suspected or confirmed. It is preferable to try to ensure that the resection is not incomplete from the beginning.

Management of colorectal polypectomy complications

Perforation, bleeding and postpolypectomy coagulation syndrome are major complications of colorectal polypectomy. Although their frequency is low, they can be fatal to patients. High risk patients due to the use of anticoagulants or clopidogrel, or with hypertension, heart disease, chronic renal disease, and pulmonary disease, can be selected ideally through careful history taking and physical examination before the procedure. If they are found immediately, most bleeding and perforation after colorectal polypectomy can be treated by clipping. However, prophylactic clip placement does not decrease the occurrence of delayed bleeding after colorectal polypectomy.

Debate on management of small polyps

All detected polyps are removed and sent for pathologic assessment. However, because of ineffective cost, resected polyps, especially small polyps, were discarded as was proposed by the ASGE program for diminutive polyps only.¹¹ The accu-

racy of a simple narrow band imaging (NBI)-based classification system for differentiating hyperplastic from adenomatous polyps was approximately 90%.¹² In application of the resect and discard strategy, some caution is needed in patients with polyps of 6 to 9 mm in size, which have a risk, although low, of invasive cancer, and also in patients with serrated sessile lesions of the right colon, which also require complete removal and surveillance.

ENDOSCOPY ENCOUNTERED IN IBD

Endoscopy in IBD: indications and differential diagnosis

Endoscopic evaluation of patients with IBD is extremely valuable and has changed the management of these diseases. Endoscopy can establish an exact tissue diagnosis including differential diagnosis, determine the severity and extent of mucosal inflammation, guide the surgeon in the perioperative period, and enables examination of the bowel proximal to stomas, diagnosis of complications, endoscopic treatment, and colorectal cancer surveillance.^{13,14} The advent of capsule endoscopy (CE) and both single and double balloon-assisted enteroscopy (DBE) have revolutionized small bowel imaging and have major implications for diagnosis, classification, therapeutic decision making and outcomes in the management of IBD. The roles of CE in Crohn's disease (CD) are early diagnosis of CD, evaluation of disease activity in unexplained symptoms, evaluation of mucosal healing and early detection and management of postoperative recurrence.¹⁵

Optimal endoscopy for disease monitoring of IBD

The role of endoscopy in remission state is limited. However, it is helpful in high risk patients suspected of mucosal inflammation (current smoking, early onset disease, extensive involvement of small and large bowel, steroid use at diagnosis, perianal lesion, and extraintestinal manifestation). Methods for endoscopic evaluation of disease activity in ulcerative colitis (UC) include Mayo score, Baron score, modified Baron score, Sutherland index, Powel-Tuck index (St. Marks index), Rachmilewitz index (endoscopic clinical activity index) and ulcerative colitis endoscopic index of severity (UCEIS). UCEIS is simple to use and can accurately predict overall assessment of endoscopic severity of UC.¹⁶ Crohn's disease endoscopic index of severity (CDEIS), simple endoscopic score for CD, Rutgeerts score, and Watson score are used when evaluating endoscopic disease activity of CD. CDEIS is a standard index and is widely used in clinical trials.

Therapeutic endoscopy in IBD

A stenosis is commonly observed in IBD and more com-

mon in CD than UC. Stenosis causing symptoms can occur anywhere in the GI tract; however, there is a predilection for the ileocecal valve, ileocolonic anastomosis, duodenum, sigmoid colon, and anal canal. Endoscopic balloon dilatation is an effective and safe treatment for short stenosis caused by CD.¹⁷

Surveillance of colitic cancer

Increased risk of colitic cancer in IBD is associated with disease duration, anatomic extent of disease, early onset of disease, severity of inflammation, family history of colon cancer, and concomitant primary sclerosing cholangitis.¹⁸ American College of Gastroenterology guidelines recommend that after 8 to 10 years of colitis, annual or biannual surveillance colonoscopy, with multiple biopsies at regular intervals, should be performed in patients with either left-sided colitis or pancolitis.¹⁹

INTERESTING CASES IN LOWER GUT DISEASE

IBD requires differential diagnosis from a variety of infectious and noninfectious colitides which may share similar clinical symptoms. In contrast to IBD, infectious colitis has generally preserved mucosal and crypt architecture. Main differential diagnosis includes *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *Escherichia coli*, *Mycobacterium tuberculosis*, *Clostridium*, Histoplasmosis, *Entamoeba histolytica*, *Schistosoma*, Cytomegalovirus, Herpes simplex virus, collagenous colitis, lymphocytic colitis, eosinophilic colitis, ischemic colitis, diverticular disease, diversion colitis, nonsteroidal anti-inflammatory drug enteropathy, radiation colitis, stercoral ulcers, and preparation artifacts.

HIGHLIGHTS OF PANCREATICOBILIARY SESSIONS

In the 48th Seminar of KSGE, there were many interesting sessions on endoscopic techniques and precautions during medical care. Especially in the pancreatobiliary part, there were namely three sessions that were both very informative and helpful: 1) all about safe and successful ERCP; 2) the preceding disease associated with pancreatobiliary malignancy; and 3) pancreatobiliary cases requiring attention from primary physicians. Here, we will briefly summarize these three spoken sessions.

ALL ABOUT SAFE AND SUCCESSFUL ERCP

What is the best way for selective cannulation?

Selective cannulation is essential for successful ERCP. Un-

fortunately, sometimes it is rather difficult to get into the desired duct despite the expertise of the endoscopist. This session dealt with both standard and special cannulation maneuvers and instruments. The topics covered included the following: 1) the direction of selective cannulation of pancreatic duct and common bile duct (CBD); 2) how to cannulate with standard cannula, standard papillotome, pancreatic stent or wire to facilitate biliary cannulation and precut papillotomy; and 3) cannulation maneuver in special situation such as diverticulum, Billroth II anastomosis, and ampulla of Vater (AOV) cancer.

Expert opinion to open the orifice of papilla effectively

This topic included advices on performing EST in general and special situations. Also included were the concepts of endoscopic papillary balloon dilatation (EPBD) and ways to avoid complications. Soft and fast cannulation is important to avoid complications such as pancreatitis and full thickness endoscopic sphincterotomy (EST) is not necessary in any situation. Endoscopists should be familiar with at least one of the rescue procedures, namely precut infundibulotomy and needle knife fistulotomy. There were two kinds of procedures used for dilatation of ampulla. In the United States, EPBD is not used for small gall stone removal due to complications associated with the procedure, but in Japan, EPBD is preferred to EST. To remove large gall stones, endoscopic papillary large balloon dilatation after EST is useful, especially in cases of long standing CBD stones.

How to accomplish complete stone removal without complications?

This topic dealt with CBD stones removal methods by basket or balloon after EST or EPBD. Mechanical lithotripsy is an effective method that can be performed additionally to remove stones. The basket is generally more useful than balloon, but in cases of small sized stones or sludge, balloon has some advantages. Mechanical lithotripsy is used in cases of large stones, proximal positioning stones with stricture, multiple stones, and strangulation of stones. How to remove stones safely and how to remove stones in difficult situation were explained in this topic.

Technical tips for biliary stenting

This topic consists of description of different types and insertion techniques of drainage in ERCP, and of technical problems.²⁰ Although different types of drainage, such as nasobiliary drainage, plastic stent, and SEMS, have different indications and characteristics, there are no available guidelines for appropriate selection of drainage method. Generally, the

effectiveness of drainage, duration, benign or malignant stricture, position of stricture, and remaining day are considered. Situational differences, such as whether unilateral drainage or bilateral drainage is needed in the hilar stricture, were explained in this topic. In Bismuth type I, unilateral drainage is enough, but in type II, bilateral drainage is sometimes needed, and in type III/IV bilateral drainage is almost always recommended

THE PRECEDING DISEASES ASSOCIATED WITH PANCREATOBILIARY MALIGNANCY

Congenital pancreatobiliary anomaly associated with pancreatobiliary malignancy

There are some congenital anomalies that can progress to cancer: congenital biliary cysts, anomalous union of pancreato-biliary duct, ectopic pancreas, aberrant opening of papilla and congenital pancreatic cysts, to mention a few. Congenital biliary cysts and anomalous union of pancreatobiliary duct are well known and can occur individually or simultaneously, and therefore, surgical correction is recommended. Many cases were asymptomatic and discovered incidentally, but it is important to recognize the relation to cancer and to intervene appropriately.

Parasite infections involving hepatobiliary tract associated with cholangiocarcinoma

Protozoa and helminths are parasitic infections in hepatobiliary tract, and *Opisthorchis viverrini* and *Clonorchis sinensis* are associated with hepatobiliary cancer. *C. sinensis* is the most frequent parasite infection in Korea, and older age population with habits of eating uncooked freshwater fish are at high risk. In a recent research, the relative risk of cholangiocarcinoma was 4.7 in people with *C. sinensis* infection. Because there is no effective vaccination against this certain parasite, education and appropriate management of the carriers are most important.

Biliary tract stone and cancer

GB stone is associated with GB cancer, whereas CBD stone is not clearly related to CBD cancer. On the other hand, intrahepatic stone is clearly related to cholangiocarcinoma. Although GB stone is associated with cancer, preventive cholecystectomy is not recommended. There are some controversies in the treatment of intrahepatic stones. Generally, in cases of symptomatic intrahepatic stones, endoscopic or surgical removal is recommended. Some retrospective studies showed that surgical resection was preferred to endoscopic procedure in cases of recurrent stones and stones associated with stric-

ture. However, surgery related morbidity and mortality were rather high.

Chronic pancreatitis as a risk factor of pancreatic cancer

It is generally acknowledged that chronic pancreatitis is related to pancreatic cancer, but the exact mechanism is yet to be clarified. Chronic pancreatitis has many causes, and several mechanisms were suggested according to the cause. Several cytokines, including cyclooxygenase 2, and nuclear factor kappa B, seem to be implicated in chronic inflammation mechanism as well as the cancer development.

PANCREATOBILIARY CASES REQUIRING ATTENTION FOR PRIMARY PHYSICIANS

Gallbladder lesions mimicking gallbladder cancer

Not only gallbladder cancer is difficult to diagnose, but also it is associated with poor prognosis. Concurrent gall bladder mass with wall thickness exceeding 1 cm can be diagnosed as gall bladder cancer, and in such cases, surgery should be considered. Unfortunately, at times, it is hard to distinguish cancer from other disease entities, such as xanthogranulomatous cholecystitis, GB polyp, pseudoepidermoid cyst, bronchogenic cyst, and ectopic pancreas. In this session, a case about xanthogranulomatous cholecystitis mimicking GB cancer was introduced.

Indeterminate bile duct strictures: benign or malignant?

Malignant diseases or a variety of benign diseases can cause bile duct stricture. It is sometimes hard to distinguish benign lesions from malignancies, thus necessitating a pathologic confirmation. Diagnostic rate is low, however, and it is important to select appropriate diagnostic tools and to have understandings on etiologies that can mimic biliary strictures. Forceps biopsy or aspiration through ERCP, intraductal ultrasonography, and endoscopic ultrasound (EUS) are the advocated tools. Mirizzi syndrome, recurrent pyogenic cholangitis, primary sclerosing cholangitis, xanthogranulomatous cholangitis, and intraductal papillary neoplasm of the bile duct are the diseases that can mimic biliary stricture.

AOV lesions difficult to observe with forward endoscopy

As the number of gastroscopic evaluation increases, so is the number of incidental AOV lesion discoveries on gastroscopy. In this topic, the author showed the cases on low grade dysplasia on AOV and normal AOV mimicking dysplasia.

AIP mimicking pancreatic cancer

Focal autoimmune pancreatitis (AIP) is similar to pancreatic cancer. Two cases of AIP similar to pancreatic cancer were diagnosed by pathology and immunoglobulin G4 immunohistochemical staining. The most frequent symptoms are painless jaundice and newly diagnosed or aggravated diabetes. Imaging tools, laboratory results, EUS findings and response to steroid could be used as adjunctive diagnostic tools.

HIGHLIGHTS OF OTHER SPECIALIZED TOPIC SESSIONS

Small bowel endoscopy

In addition to upper and lower GI endoscopy, enteroscopy is performed in some centers, recently. There was a session dealing with small bowel endoscopy in this seminar. Indications of small bowel endoscopy are obscure GI bleeding, chronic diarrhea, iron deficiency anemia, CD, etc. CE enables endoscopic imaging of the whole small bowel without patient discomfort but capsule retention can be a problem. CE is a good choice for small bowel endoscopy when small bowel bleeding is suspected without evidence of small bowel stricture. DBE or single balloon enteroscopy (SBE) is a better choice if biopsy or therapeutic procedure is considered. But DBE or SBE is an advanced procedure and should be performed by experienced endoscopists. SBE is easier to learn but shows lower insertion depths than DBE. Spiral enteroscopy (SE) uses a specialized overtube having screw to pleat the small bowel. The depth of insertion and the rate of complete enteroscopies are believed to be significantly lower with SE than DBE. Small bowel tumors are rare and accounts for about 0.98% of whole GI malignancies in Korea. Common primary small bowel tumors are adenocarcinoma, lymphoma, carcinoid tumor and gastrointestinal stromal tumor. Small bowel enteroscopy plays an important role in the diagnosis of small bowel tumors. Other important roles of enteroscopy in the diagnosis of small bowel bleeding and small bowel strictures or obstruction were also discussed in this session together with radiologic techniques of small bowel imaging.

Image-enhanced endoscopy (IEE)

Several techniques of IEE are available in clinics, including NBI, I-scan, flexible spectral imaging color enhancement, autofluorescence endoscopy, magnifying endoscopy, and confocal endomicroscopy. Various means of IEE allows improved visualization of the surface structure of lesions and can provide guidance when selecting the optimal treatment modality. For example, pit pattern examination with NBI for a laterally spreading tumor of the colon can be used to gain insight into the pathology of the lesion.²¹ However, lower interobserver

reliability is one of the problems of IEE, for which further improved developments are required immediately. Kim and Ku²² described the limitation of IEE in the diagnosis and treatment of upper GI tumors in this issue of *Clinical Endoscopy*.

EUS

EUS is indispensable in daily gastroenterological practices now. Though the interests of most experienced endosonographers are focused to EUS guided fine needle aspiration,²³ EUS session was organized for the beginners of EUS. Utilities and limitations of EUS in the diagnosis of submucosal tumor, T staging of early gastric and esophageal cancer, gallbladder polyp and thickened gallbladder wall, and pancreatic neoplasm were explained in details. By EUS, the wall of the GI tract is well visualized as a five-layered structure. Originating wall layers and echo-features of submucosal tumor can be well observed with EUS and differentiation of the nature of submucosal lesions with educated guess is possible. EUS is also a good tool in T staging of early gastric and esophageal cancers. Cho²⁴ presents detailed review regarding this matter in this issue of *Clinical Endoscopy*. EUS examination of the gall bladder and pancreas is also important diagnostic process and contrast enhanced EUS and EUS elastography are very useful techniques in this field.

Quality issues

Recently, significance of providing quality care has been gaining increased attention. For quality endoscopy, two sessions were prepared in this seminar. Disinfection of gastrointestinal endoscopes and accessories, and risk prevention were important topics. With regard to these topics, two review articles were invited in this special issue of *Clinical Endoscopy*.^{25,26} One session was for nurses and topics included "preparation and patient evaluation," "useful nursing tips for upper endoscopy," and "useful nursing tips for colonoscopy."

Live demonstration and colonoscopy hands-on course

Multicenter-based live endoscopic demonstration using superfast broadband internet connections and digital video transport system²⁷ was included in this seminar. Live endoscopy demonstration was comprised of many interesting diagnostic and therapeutic endoscopic procedures. Four hospitals participated in this session and it was a very informative for all the attendee. Four rooms were prepared for preregistered attendees for colonoscopy hands-on course. Each room was equipped with Olympus colonoscopy simulator. Three attendees were taught by one expert for an hour. The session repeated three times and twelve experts taught thirty six attendees all together. All participants were very satisfied with the

course.

CONCLUSIONS

The 48th Seminar by KSGE was very informative and practical for primary physicians and related personnel. It provided a good opportunity for all participants to learn upgraded knowledge from experts in gastrointestinal disease and the endoscopic field. Active participation and interactive exchanges might be the best and efficient way to endow doctors and patients with benefits. Korean Society of Gastrointestinal Endoscopy has plan to offer another seminar in coming August and International Digestive Endoscopy Network (IDEN) 2013 in June 2013.

Conflicts of Interest

The authors have no financial conflicts of interest.

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