JGA Keynote Program
The 3rd International Gastrointestinal Consensus Symposium (IGICS)
Present Situation and Future Prospects on Endoscopic Diagnosis and Treatment in Asia
February 20, 2010, Fukuoka, Japan

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Guest Editor
Takashi Joh, Nagoya, Japan
JGA Keynote Program
The 3rd International Gastrointestinal Consensus Symposium
(IGICS)

Date      February 20 (Sat.), 2010
Time      08:30–17:00
Venue     Fukuoka Convention Center
Topic     Present Situation and Future Prospects on Endoscopic Diagnosis and Treatment in Asia

IGICS Committee Members
JGA International Exchange Committee Members
Takashi Joh, Japan (Chairperson of the 3rd IGICS)
Tetsuo Arakawa, Japan
Yoshikazu Kinoshita, Japan
Takayuki Matsumoto, Japan
Yuji Naito, Japan
Shin’ichi Takahashi, Japan
Koji Takeuchi, Japan

IGICS International Active Members
Ki-Baik Hahm, Korea
Udom Kachintorn, Thailand
Abdul Aziz Rani, Indonesia
Jose D. Sollano, Philippines
Qi Zhu, China
Dear Colleagues,

It is our great pleasure to welcome you to the 3rd International Gastrointestinal Consensus Symposium (IGICS) to be held on Saturday of February 20, 2010 in Fukuoka as a JGA Keynote Program in the 6th Annual Meeting of the Japanese Gastroenterological Association (February 19–20, 2010, President: Prof. Mitsuo Iida of Kyushu University Faculty of Medicine).

The topic for the 3rd IGICS is “Present situation and future prospects on endoscopic diagnosis and treatment in Asia”. Recently, novel therapeutic techniques such as ESD have been used in the treatment of early cancers of esophagus, stomach, colon and rectum. Diseases of small intestine can be diagnosed now by using new devices including capsule endoscopy and double-balloon endoscopy. Furthermore, specialized ancillary equipment enables easier, safer and more effective for endoscopic diagnosis and therapy. In this symposium, we will have 1 special lecture, 23 oral presentations, and 16 poster presentations.

This symposium will provide you the latest information on digestive endoscopy from the Asians’ best clinicians and scientists. We hope that you will find this meeting valuable and stimulating educational experience as we believe it will be greatly enriched by your active participation in the discussion. Young Investigator Awards provided by Japanese Gastroenterological Association (JGA) shall be given to three outstanding speakers.

We sincerely look forward to seeing you in Fukuoka in February 2010.

With kind regards,

Takashi Joh, MD, PhD
Chairperson of the 3rd IGICS
# Program

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Dr. Jose D. Sollano, University of Santo Tomas, Manila, Philippines

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Endoscopic Submucosal Dissection for Superficial Esophageal Cancer: Comparison to EMR Method

Hwoon-Yong Jung
Department Gastroenterology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea

Background/Aims: Endoscopic resection (ER) is well accepted method for treatment of differentiated early gastric cancer confined to mucosa without ulceration. For superficial esophageal cancer (SEC), ER can be applied for differentiated mucosal cancers instead of conventional esophagectomy. Methods of ER can be divided into endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD). In this study, we aimed to evaluate the completeness and technical issues of EMR and ESD method for esophageal cancer.

Methods: Complete resection was defined as 1) differentiated cancer, 2) mucosal cancer, 3) free lateral and deep resection margins, 4) no lymphovascular tumor emboli. Successful resection means only free of both resection margins. Additional esophagectomy or radiation therapy (RT) was warranted if incomplete resection after initial ER. We analyzed the patients with SEC taken ER for initial treatment for evaluating the efficacy of two methods.

Results: A total of 69 ER (62 patients) was retrospectively included in this study between Dec 1996 and Jan 2008. M:F ratio was 58:4 and median age was 64 (range, 45–84). Number of EMR and ESD was 32 and 37, respectively. 1) EMR group (32 ER, 28 patients, M:F=31:1, median age=65). En Bloc resection was achieved in only 12 (37.5%). Successful resection rate was 68.8% (22/32). Complete resection rate was 53.1% (17/32). Most common cause of incomplete resection was involvement of lateral margin. Stricture was developed in 3 patients (9.4%) and bleeding in one (3.1%). Repeated dilatation was performed with success. Additional therapy was performed in 7 patients (surgery 4, RT 2, chemotheraphy 1). Two patients were died of recurrent esophageal cancer (34 & 61 months later). 2) ESD group (37 ER, 34 patients, M:F=31:3, median age=62). En Bloc resection was achieved in 36 (97.3%) lesions. Successful resection rate was 97.3% (36/37) except one patient with incomplete procedure because of adhesion between tumor and submucosal layer. Complete resection rate was 86.5% (32/37). Most common cause of incomplete resection was involvement of lateral margin. Stricture was developed in 3 patients (8.1%) and bleeding in two (2.7%). One (2.7%) perforated patient was recovered by clipping during ESD. Additional therapy was performed in 2 patients (surgery 1, RT 1).

Conclusion: ESD method may be an alternative curative measure for mucosal SEC in terms of safety as well as curability compared to EMR method.
O-1-1
Effectiveness of Crystal Violet Chromoendoscopy with Mucosal Pit Pattern Diagnosis for Surveillance of Barrett’s Esophagus

Norihisa Ishimura¹, Yuji Amano², Takafumi Yuki², Yoshiko Takahashi², Yoshikazu Kinoshita¹
¹Department of Gastroenterology and Hepatology, Shimane University School of Medicine, ²Division of Gastrointestinal Endoscopy, Shimane University Hospital, Izumo, Japan

Introduction: Surveillance endoscopy with systematic biopsies is recommended for patients with Barrett’s esophagus (BE). However, more efficient method has been investigated due to the laboriousness of the present method. We have previously shown that crystal violet (CV) chromoendoscopy can detect dysplastic lesions in BE with high sensitivity and specificity. To evaluate the effectiveness of CV chromoendoscopy for surveillance of BE based on the mucosal pit pattern, we investigated the relationship between the pit pattern and the pathology of BE.

Methods: Two hundred and nine patients with BE were enrolled. Prior to endoscopy, the structured questionnaire was conducted. Three hundred and fifty-five biopsy samples were obtained from the enrolled cases. Mucin-phenotype, expression of fatty acid synthase (FASN), COX-2, stromal angiogenesis, cellular proliferation, and apoptosis were evaluated by immunohistochemistry. Factors influencing mucosal pit pattern were determined by logistic multivariate analysis. All the patients were surveyed by CV chromoendoscopy and the pit pattern was classified into closed and open types.

Result: Open type pit pattern was found in 70 out of 209 patients. Presence of intestinal mucin-phenotype (OR 5.83, p=0.034), COX-2 (OR 2.21, p=0.024), FASN (OR 2.45, p=0.040), enriched angiogenesis (OR 5.98, p=0.029), elevated PCNA index (OR 1.11, p=0.036) and lower apoptosis index (OR 0.75, p<0.05) were confirmed to be positive independent factors for the expression of open type of pit pattern. Neither clinical characteristic nor symptom shows a correlation to pit pattern.

Conclusion: Open type pit pattern was more frequently observed in cases with BE with intestinal predominant mucin phenotype, enriched stromal angiogenesis, COX-2 and FASN expression, elevated cellular proliferation and decreased apoptosis. Therefore, open type pit pattern may suggest high malignant potential of BE.

O-1-2
Clinical Impact of Endoscopic Submucosal Dissection for Superficial Esophageal Cancer

Hirohisa Machida, Yasuaki Nagami, Kazunari Tominaga, Masami Nakatani, Natsuhiko Kameda, Hirotoshi Okazaki, Tetsuya Tanigawa, Kenji Watanabe, Toshio Watanabe, Yasuhiro Fujitama, Tetsuo Arakawa
Department of Gastroenterology, Osaka City University Graduate School of Medicine, Osaka, Japan

Background: Endoscopic submucosal dissection (ESD) has become more widely accepted as an Endoscopic treatment modality of early-stage esophageal cancer with recent advancement of endoscopy and other related devices. ESD, however, is associated with significant drawbacks, such as long procedure time or high procedure risks. To reduce the incidence of complication, we had introduced bipolar-current devices. With a bipolar-current device, the amount of high-frequency current sent from the device to the muscle layer has been reduced. Therefore, it has been potentially safe.

Objective: The aim of this study was to clarify the efficacy and drawbacks of ESD for superficial esophageal cancer (SEC).

Patients and Methods: Between May 2006 and July 2009, patients with 110 SECs underwent ESD. An ESD was performed by using a bipolar-current needle knife and a bipolar-current haemostatic forceps. For the widespread lesion, a monopolar-current device with long blade was also introduced for submucosal dissection. En-bloc resection rate, curative resection rate: defined as en-bloc resection with tumor-free margin, procedure time and complication were evaluated, including a comparison between two groups; the lesion size was 20mm or less (group A) and over 20mm (group B) in diameter.

Result: A total of 109 lesions were squamous cell carcinoma and one lesion was adenocarcinoma. En-bloc resection was achieved in 109 (99.0%). Curative resection rate was 91.8% in overall (OA), 93.2% in group A and 90.2% in group B, while median procedure time was longer in group B; 80 min in OA, 61 min in group A and 109 min in group B. As complication, 8 mediastinal emphysema (ME) without perforation and 11 post-operative strictures, which required endoscopic balloon dilation, occurred. ME were managed conservatively with supportive measures.

Conclusion: Although ESD for the widespread lesion tended to taking longer procedure time, ESD may be safe and effective option to remove SEC less-invasively.
O-1-3

Therapeutic Effect of Savary Gilliard Dilator for Anastomotic Stenosis after Esophageal Cancer Operation in 207 Cases

Liao Shan-ying, Wang Qi-yi, Liu Wan-wei, Liang Wei-min, Sha Wei-hong

Department of Gastroenterology, Guangdong General Hospital, Guangdong Academy of Medical Sciences, Guangzhou, China

Objective: The aims of the study were to observe the curative effect of Savary Gilliard dilator on treating the stenosis of anastomotic stoma after esophageal cancer operation.

Methods: Savary Gilliard probe dilations under endoscopy were performed in 207 patients with anastomotic stenosis who had undergone esophagectomy due to their malignancies. After the endoscopic examination, the guide wire was guided into the gastric cavity deeply through the stricture site by endoscope’s pincers path. Savary Gilliard dilators were placed by the guide wire and were replaced by large one gradually until the stenosis was dilated.

Results: Esophageal obstruction and dysphagia symptoms were significantly alleviated in 207 patients after dilatation. The efficacy rate of dilation in short term was 100%. The degree of dysphagia was classified according to Stooler’s method. The patients in II, III and IV degrees were 100, 70 and 37 cases respectively before treatment and were 120, 75, 9 and 3 cases in 0, I, II and III degrees respectively after treatment. After follow-up in 2 to 6 months, 30% (62/207) patients had the recurrent anastomotic stenosis and dilations again could effectively improve dysphagia symptoms. Four hundred and ninety-three dilatations were performed in 207 patients and no severe pain, massive haemorrhage or perforation occurred.

Conclusion: Savary Gilliard dilatation under endoscopy is a safe, simple, small trauma and reliable approach for patients with anastomotic stenosis and has a promising effect in short term as well as in long term follow-up by improving the patient’s life quality. The key point of successful operation is to insert the guide wires and Savary Gilliard probes accurately and to replace the large dilators gradually.

O-2-1

Usefulness of Narrow-Band Imaging on Detection of Esophageal Disorder Using Transnasal-EGD

Takashi Kawai1, Kei Yamamoto1, Mari Fukuzawa1, Kyousuke Yanagisawa1, Tetsuya Yamagishi1, Kenji Yagi2, Yoshihiro Oshima2, Masakatsu Fukuzawa2, Mikinori Kataoka2,3, Kohei Kawakami2, Yoshihiro Sakai2, Fuminori Moriyasu2, Yu Takagi3, Tatsuya Aoki2

1Endoscopy Center, Tokyo Medical University Hospital, 2Fourth Department of Internal Medicine, Tokyo Medical University, 33rd Department of Surgery, Tokyo Medical University

Introduction: In Japan, it is reported rapid spread in the use of transnasal esophagogastroduodenoscopy (TN-EGD). Problems have been identified with the new technique, however, including poor endoscopical imaging quality. In this study, we investigated the sensitivity of White Light (WL) and Narrow Band Imaging (NBI) for diagnosis of esophageal disorder including esophageal cancer.

Methods: Subjects were 104 patients with screening for gastrointestinal tract using Olympus XP-260N. Mean age was 67.8±9.48. All patients were inspected under WL, NBI, and iodine dye staining for esophagus. Esophageal disorder was defined distinct iodine-unstained lesion (DIUL) more than 5mm. Yokoyama et al reported DIUL >5mm was 97% esophageal disorder (including: 24.2%: cancer, 72.8%: dysplasia).

Result: 50 patients had DIUL>5mm. DIUL>5mm were consisted of 2 esophageal cancer (squamous cell carcinoma), 4 dysplasia, 44 inflammation. Sensitivity and specificity of DIUL were 24.0% and 100% respectively in WL. On the other hand, sensitivity and specificity of DIUL were 58.0% and 96.2% respectively in NBI. In esophageal cancers, 1 case with slight reddening was detected under WL, 1 case without reddening wasn’t detected under WL. All esophageal cancers were detected under NBI with brownish area.

Conclusion: NBI is powerful tool for identifying squamous cell carcinoma and disorder in esophagus using TN-EGD. Especially NBI was useful for detection of esophageal lesion without reddening.
The Safety of Transnasal Small-Caliber Endoscopy for Critically Ill Patients

Mika Yuki1, Yuji Amano2, Yoshinori Komazawa1, Hiroyuki Fukuhara1, Tsuyoshi Mishiro1, Tomoko Mishiro1, Toshihiro Shizuku1, Norihisa Ishimura3, Yoshikazu Kinoshita1

1Izumo-City General Medical Center, Division of Internal Medicine, Izumo, 2Shimane University Hospital, Division of Endoscopy, Izumo, 3Shimane University, School of Medicine, Second Department of Internal Medicine, Izumo, Japan

Introduction: Unsedated transnasal small-caliber esophagogastroduodenoscopy (EGD) is often used to examine the upper gastrointestinal tract. Its safety for elderly and critically ill patients, however, has not been fully evaluated. To evaluate the tolerability of transnasal EGD for elderly and critically ill bedridden patients, the present study was assigned.

Methods: As a prospective randomized comparative study between transnasal small-caliber EGD and transoral conventional EGD, 240 elderly patients over 65 years old were enrolled (Study 1).

As another comparative crossover analysis, 30 bedridden patients with percutaneous endoscopic gastrostomy (PEG) were done (Study 2). We evaluated cardiopulmonary effects by measurements of arterial O2 saturation (SpO2) and the rate-pressure product (RPP) in each study. To assess the risk of pulmonary infection, we also evaluated blood leukocyte counts (WBC) and serum C-reactive protein (CRP) values in Study 2.

Result: In Study 1, significant decreases of SpO2 were found in transoral EGD (P<0.05), but not in transnasal EGD. Significant differences of the RPP were not found between transoral and transnasal EGD. In Study 2, crossover analysis showed statistically significant increases of the RPP during and at the end of endoscopy (P<0.05), and decreases of SpO2 (P<0.05) in transoral EGD. Thus, for bedridden patients with PEG feeding who were examined in the supine position, transoral EGD more severely suppressed cardiopulmonary function than transnasal one. There were also significant increases in the markers of inflammation, WBC and CRP values, in bedridden patients 3 days after transoral EGD, but not after transnasal EGD performed with the patient in the supine position (P<0.001). Aspiration pneumonia, possibly caused by the endoscopic examination, was found in 2 of 30 patients only after transoral EGD.

Conclusion: Transnasal small-caliber endoscopy is safe for critically ill patients such as bedridden ones with PEG feeding from the viewpoint of prevention of aspiration pneumonia.
Oral Session 3: Stomach
Chairpersons: Shin’ichi Takahashi, Qi Zhu

O-3-1
Endoscopic Ultrasonographic and Clinical Pathological Characteristics of Gastric Stromal Tumor
Lin Huan-jian1, LAI Xiao-rong1, TONG Hua-sheng2, Liu Wan-wei1
1Guangdong Province Hospital, Guangzhou, 2General Hospital of Guangzhou Military Command, Guangzhou, China

Objective: To explore endoscopic ultrasonographic and clinical pathologic characteristics of gastric stromal tumor, and to improve the accuracy of EUS of gastric stromal tumor.

Method: 16 cases of gastric stromal tumor were diagnosed by EUS, and the postoperative pathological findings were compared with the EUS.

Results: Most of the ultrasound of gastric stromal tumor manifested as lesions with hetero-and/or homo-geneous hypoechoic patterns and readily distinguished border. 18.7%(3/16) of the gastric stromal tumors were derive from muscularis mucosa, 75%(12/16) from muscularis, 6.3%(1/16) from the outside mucosa. 12.5%(2/16) of the gastric stromal tumors were benign, 12.5%(2/16) were latent malignant, 62.5%(10/16) were low-degree malignant, 12.5%(2/16) were high-degree malignant, who were misdiagnosed as low-degree malignant.

Conclusions: The high distinguishing ability of EUS lead to definite accurate diagnosis of gastric stromal tumor, with exception of its diagnosis of high-degree malignant tumor.

O-3-2
Study on the Clinical Application of Gastric Mucosal Marking Targeting Biopsy
Yanfei Fang, Lan Zhao, Shujie Chen, Leimin Sun, Liangjing Wang, Jianmin Si
Gastroenterology Laboratory, Clinical Research Institute, Sir Run Run Shaw Hospital, Zhejiang University School of Medicine, Hangzhou, People’s Republic of China

Introduction: Mucosa marking targeting biopsy (MTB) technique has been tested and verified in animal model in our previous studies. For multi-focal premalignant gastric lesions, random biopsy may miss the point of atrophy, intestinal metaplasia or intraepithelial neoplasia. In order to monitor premalignant gastric lesions on gastroscopy, get the proper biopsy sample is very important.

Methods: 257 premalignant gastric lesions patients were enrolled prospectively in this study. India ink was tattooed at five points of stomach. Endoscopy was followed up at different time points (13w, 26w, 39w, 52w, 78w, 104w and 130w).

Result: At different time points of 13w, 26w, 39w, 52w, 78w, 104w and 130w, the existence rates of tattooing mark were 99.16%, 96.64%, 94.12%, 91.60%, 90.76%, 90.76%, 90.76%, respectively. There were no complications related to India ink tattooing including fever, abdominal pain, bleeding or perforation. At follow-up gastroscopy, no ulcers, inflammation, break in the mucosa, or pain was noted. Remaining ink could be observed in the interspace of connective tissue, while no influence to the histological and cytological analysis was found.

Conclusion: The safety and effectiveness of MTB technique has been established in clinical application, and it could be widely used in monitoring premalignant gastric lesions.

O-3-3
Endoscopic and Symptoms Improvement after Rebamipide Treatment in Dyspeptic Patients due to Chronic Gastritis
Abdul Aziz Rani, Marcellus Simadibrata, Ari Fahrial Syam
Division of Gastroenterology, Department of Internal Medicine, Faculty of Medicine, University of Indonesia

Introduction: Chronic gastritis mostly appeared with dyspeptic symptoms. Aim of study was to assess the efficacy of rebamipide therapy in improvement endoscopic gastritis and symptoms in dyspeptic patients due to chronic gastritis.

Methods: Forty one patients with moderate to severe chronic gastritis based on endoscopy was performed in all patients to confirm and evaluate the severity endoscopic gastritis by Modified Lanza Score pre and post treatment with rebamipide 100 mg t.i.d for 28 days, and improvement in the scores for symptoms (abdominal pain, nausea, vomiting, appetite, belching, early satiety) by using visual analogue scale in day-0, day-7, and day-28.

Result: Forty one patients consisted of 20 (48.8%) male and 21 (51.2%) female with the mean±SD age was 42.3±1.1 years. The mean score of severity of endoscopic gastritis at pre and post-treatment was indicated significant improvement from 3.3 to 2.7 (p=0.000). All of the symptoms showed improvement from pre treatment to visit by visit. The mean score of abdominal pain, nausea, vomiting, appetite, belching, early satiety at day-0, day-7, day-28 was 4.15, 3.00, 2.00 p=0.000; 3.79, 2.09, 1.71 p=0.000; 1.67, 1.27, 0.97 p=0.035; 3.43, 2.52, 1.94 p=0.033; 5.19, 3.96, 2.53 p=0.000; 4.73, 3.60, 2.51 p=0.000, 4.83, 3.95, 3.35 p=0.001, respectively.

Conclusion: Rebamipide treatment improved symptoms and endoscopic features of chronic gastritis in patients with dyspeptic symptoms.
The 3rd International Gastrointestinal Consensus Symposium (IGICS)

O-3-4
Endoscopic Hemostasis Using High-Frequency Soft Coagulation for Bleeding Gastric Ulcer: Comparison with Hemoclips in a Prospective, Randomized Study
Seiichiro Arima¹, Ryo Shimoda¹, Shinichi Ogata², Ryuichi Iwakiri¹, Kazuma Fujimoto¹
¹Internal Medicine, Saga Medical School, ²Saga Prefectural Hospital Koseikan, Saga, Japan

Introduction: The endoscopic high-frequency soft coagulation is available in Japan for management of gastric bleeding in cases of bleeding gastric ulcers and bleeding during endoscopic submucosal dissection. The aim of this study was to evaluate an efficacy of hemostasis with soft coagulation for bleeding gastric ulcers compared with hemoclips in a prospective, randomized trial.

Methods: During the period of April 2006 to March 2007, 96 patients of gastric ulcers with bleeding or nonbleeding vessels were enrolled. All of 96 patients were randomly divided into two groups: Group I was treated with soft coagulation. Group II was treated with endoscopic clipping. We compared the two groups regarding initial hemostasis, recurrent bleeding, and required time.

Result: Among the 48 patients in Group I, initial hemostasis was successful in 41 patients (85%) with soft coagulation alone. Among 48 patients in Group II, initial hemostasis was successful in 38 patients (79%) with clipping alone. Finally, the initial endoscopic hemostatic rate in Groups I and II was 98%. One patient in Group I (2%) and five patients in Group II (10%) were experienced recurrent bleeding within one week. The time required to achieve hemostasis was shorter in the Group I than Group II (9.2±11.1 vs 13.6 ±9.4 min; p < 0.05).

Conclusion: This prospective randomized study indicated the efficacy of soft coagulation method. The initial hemostasis ratio was not different between two tested groups. The time required to achieve hemostasis was shorter in the patients treated by soft coagulation and the rebleeding rate tended to be less compared to hemoclips, which might indicate usefulness of soft coagulation method for bleeding gastric lesions.

O-3-5
Endoscopic Submucosal Dissection for Early Gastric Cancer and Gastric Adenoma: 3-years Experience in Single Center
Sang Gyun Kim
Department of Internal Medicine and Liver Research Institute, Seoul National University College of Medicine, Seoul, Korea

Introduction: Endoscopic submucosal dissection (ESD) enables en-bloc complete resection of various gastrointestinal tumors compared with conventional endoscopic mucosal resection (EMR), and has been promising treatment option of early gastric cancer (EGC). This study aimed to evaluate clinical outcome of ESD for EGC and gastric adenoma using insulation-tipped diathermic knife.

Methods: From April 2005 to June 2008, 884 patients (452 EGC and 432 gastric adenomas) were enrolled prospectively after ESD in Seoul National University Hospital. Follow-up endoscopies were performed in 3, 6, 12, 18 months, and then annually. Complete resection rate, complications, concordance of diagnosis in between the pre-treatment forcep-biopsy and pathologic mapping of ESD specimen and synchronous or metachronous lesions during follow-up were evaluated.

Result: The median follow-up duration was 13.4 ± 9.7 months (range 3-39 months). The en bloc resection rate was 100%, complete resection rate was 91.1% (801/884) on the pathologic mapping and 96.4% (703/729) in 3-month follow-up endoscopy. Perforation occurred in 1.1% (10/884) and bleeding was noticed in 3.6% (32/884). There was no complication requiring operation or procedure related mortality. Gastric adenoma in the pre-treatment biopsy were finally proven as EGC with pathologic mapping in 22.5% (119/529) of cases. During the follow-up, 2% (9/432) of adenoma cases were retreated for the remnant lesion with argon-plasma coagulation (APC) or additional ESD. Additional surgical resection was performed in 5.1% (23/452) of EGC patients due to a residual lesion, tumor invasion more than deep submucosal layer, lymphatic invasion or undifferentiated carcinoma. Among the 23 surgically resected cases, there was residual carcinoma in 17.4% (4/23) and lymph node metastasis in 21.7% (5/23). One case revealed synchronous lesion at a different location from the initial ESD site (4.3%, 1/23). During follow-up period, 160 synchronous lesions (18.1%) within 1 year and 20 metachronous lesions (2.3%) were reported. No distant or lymph node metastasis was found during the follow-up.

Conclusion: ESD shows high complete resection rate and more accurate pathologic diagnosis of EGC and gastric adenoma, and close follow-up is warranted for detection of synchronous or metachronous lesion.

O-4-1
Usefulness of Double-Balloon Endoscopy: Focused on Interobserver Variation in Suspected Small Bowel Bleeding
Jeong-Sik Byeon, Jeong Hoon Lee, Kee Don Choi, Byong Duk Ye, Dong-Hoon Yang, Soon Man Yoon, Kyung-Ja Kim, Seung-Jae Myung, Suk-Kyun Yang, Jin-Ho Kim
Department of Gastroenterology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

Introduction: Double balloon endoscopy (DBE) has made many procedures possible which were endoscopically impossible before the DBE era. We have published many reports about DBE, which include the tolerability of DBE compared to esophagogastroduodenoscopy and colonoscopy, diagnostic yield of DBE compared to small bowel
series, and usefulness of DBE in surgically distorted intestine and Peutz-Jeghers syndrome. We have also reported DBE use in small bowel bleeding, which include clinical factors predicting abnormal DBE findings and follow-up results after DBE. Despite the accomplishment of my center and other investigators, there have been few studies about the objective endoscopic diagnostic criteria for small bowel lesions detected by DBE. Therefore the issue about interobserver variation in DBE diagnosis may be aimed to analyze the interobserver variation in DBE diagnosis in small bowel bleeding.

**Methods:** We prepared DBE pictures of 124 lesions detected in patients with suspected small bowel bleeding. Three endoscopists independently presented DBE diagnoses for the lesions. They also answered whether they consider the lesions bleeding sources or not. We also analyzed the change of DBE diagnoses between when a lesion was hypothesized to be detected during DBE insertion and when it was hypothesized to be detected during DBE withdrawal.

**Result:** The kappa value for DBE diagnoses was 0.481 (0.437-0.525). The kappa value for the agreement as bleeding sources was 0.455 (0.372-0.537). DBE diagnoses were changed in 38.5% of lesions between the hypothesis of DBE insertion and DBE withdrawal.

**Conclusion:** Interobserver agreement on DBE diagnoses and as bleeding sources was moderate. DBE diagnoses were changed in one third of lesions between DBE insertion and DBE withdrawal. Therefore, education of DBE endoscopists about DBE findings may be necessary and the careful observation should be made during both DBE withdrawal and insertion.

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**O-4-2**

**Diagnostic Yield and Therapeutic Impact of Double-Balloon Enteroscopy in Patients with Obscure Gastrointestinal Bleeding**

Chen Baili1, Zhang Fangbin1, He Yao1, Nie Yuqiang2, Gao Xiang1, Zeng Zhirong2

1Department of Gastroenterology, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou, 2Department of Gastroenterology, The First People Hospital of Guangzhou City, Guangzhou, China

**Aims:** To evaluate the diagnostic yield of Double-balloon enteroscopy (DBE) in patients with Obscure gastrointestinal bleeding (OGIB) and the clinical outcome for patients undergoing the procedure.

**Methods:** This study is a retrospective analysis of patients referred to two hospital from September 2003 to April 2008 for the investigation of OGIB who underwent DBE after negative upper endoscopy and colonoscopy. And patients with surgical intervention had been followed-up for 12-24 months.

**Results:** 78 patients with OGIB (45 men, 33 women, mean age 45±16y) underwent DBE. Abnormalities were detected in 68 (87.2%) of the 78 patients. Most common pathological findings included angioectasia (n=23), diverticulums(n=15), tumors (n = 13), ulcerations or erosions (n = 8). No major complications related to the procedure occurred. Surgery was performed for 37 of these 68 patients, the coincident rate between preoperative and postoperative diagnosis was 86.5%(32/37). 36 patients carrying out surgical intervention were followed up, Re-bleeding rates were low (8.3%, 3/36) during follow-up (mean 15.8 months, range 12-24months), 3 patients with angioectasia were bleeding again.

**Conclusion:** DBE appears to have a high diagnostic yield and therapeutic impact in patients with OGIB.

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**O-4-3**

**Using Capsule Endoscopy, the Examination of Small Intestinal Lesion in the Japanese Crohn’s Disease**

Eijiro Morita1, Mitsuyuki Murano1, Ken Narabayashi1, Sadaharu Nouda1, Takanori Kuramoto1, Kazuki Kakimoto1, Ken Kawakami1, Kumi Ishida1, Yosuke Abe1, Takuya Inoue1, Naoko Murano1, Eiji Umegaki1, Masakazu Takazoe2, Kazuhide Higuchi1

12nd Department of Internal Medicine, Osaka Medical College, 2Department of Internal Medicine, Social Insurance Central General Hospital

**Introduction:** Capsule endoscopy (CE) has become increasingly important as a simple method for observing the entire small intestine. The indications for CE are obscure gastrointestinal bleeding and investigation of Crohn’s disease (CD). However, the correlation between endoscopic findings obtained by CE and clinical findings in known cases of CD is not clear, and we therefore investigated this in the present study.

**Methods:** In 30 patients with known CD (Crohn’s disease activity index [CDAI] 0–420; median = 158.3), double contrast enteroclysis (ENT) was performed 1–3 weeks prior to CE. The relationship between the CE findings and hematological analysis/CDAI was examined.

**Result:** In 17 of 30 patients, the entire small intestine could be investigated by CE, whereas in the remaining 13 patients the terminal ileum could not be investigated. The following exhibited positive correlations: total lesions and CDAI (correlation coefficient values: rs =0.661, adjusted P < 0.0061), ulcers and C-reactive protein (CRP) (rs = 0.607, adjusted P < 0.0061), total lesions and CRP (rs = 0.604, adjusted P < 0.0061).

**Conclusion:** Analysis with CE suggests that CDAI and CRP indicate the activity of intestinal lesions in patients with known CD, and that CRP, in particular, is associated with the activity of ulcerative lesions of the intestine. This may contribute to revised guidelines for CE in the future.
O-4-4
Large Balloon Dilation Following Limited Endoscopic Sphincterotomy in Patients with Large Bile Duct Stone and Periampullary Diverticulum
Yeon Suk Kim, Yang Suh Ku, Yoon Jae Kim, Dong Kyun Park, Oh Sang Kwon, Yeon Soo Kim, Ki Baik Hahm, Ju Hyun Kim
Department of Internal Medicine, Division of Gastroenterology, Gachon University Gil Hospital, Incheon, Korea

Introduction: Large bile duct stone and periampullary diverticulum (PAD) are considered difficult factors for stone extraction by conventional endoscopic retrograde cholangiopancreatography with endoscopic sphincterotomy (ES), for which case large balloon dilation (LBD) following ES has been tried for retrieval of bile duct stones. This study was designed to evaluate the safety and feasibility of LBD after limited ES in patients with large bile duct stone and PAD.

Methods: In 22 patients with large bile duct stones (≥15 mm) and PAD, LBD (12-20 mm) following limited ES was performed and thereafter ducal clearance was attempted using a retrieval balloon and/or basket. Clinical parameters, endoscopic retrograde cholangiopancreatography reports, and procedure outcomes were analyzed to draw the effectiveness and safety.

Result: A total of 22 patients (8 men, 14 women; mean age 73, range 47-91) were enrolled. The mean stone size was 16.9 ± 2.4 mm (range 15-23 mm). Mechanical lithotripsy was used in 4 patients (18%). Overall complete stone removal was achieved in 21 patients (95.5%). No procedure related complications were documented.

Conclusion: LBD plus limited ES was safe and effective for removal of large bile duct stones (≥15 mm) in patients with PAD.

O-5-1
The Pattern of Endoscopic Ultrasound (EUS) Utilization in a Large Referral Endoscopy Center in a Developing Country
Tassaneen Sripayyoon, Wichit Srikureja, Supot Pongprasobchai, Thawatchai Akaraviputh, Asada Methasate, Varayu Prachayakul, Somchai Leelakusolvong, Nonthalee Pausawasdi
Internal Medicine at Faculty of Medicine Siriraj Hospital, Thailand

Introduction: Background: EUS is accepted as a test of choice for many indications including hepato-biliary and pancreatic (HBP) disease, gastrointestinal (GI) cancer staging, subepithelial lesion, and fine needle aspiration (FNA). However, it is unknown how EUS is utilized in developing world. Aim: To assess the pattern of EUS utilization in a single tertiary care center.

Methods: Retrospective review of EUS database at Siriraj Endoscopy Center from 2003-2008. Indication, EUS findings and cytology results were reviewed.

Result: A total of 517 cases of EUS with 161 EUS-guided FNA (EUS-FNA) were performed. Slightly more than half of procedures were performed in 2008. Most cases were of HBP diseases with very few cases for GI cancer staging. For the entire period, 3 EUS were performed for esophageal staging, 5 for gastric cancer staging, 4
for rectal cancer staging and 1 for pancreatic cancer staging. There were few cases for EUS surveillance, 2 for IPMN, 2 for post operative gastric cancer surveillance and 1 for gastric cancer surveillance. More EUS-guided FNA were performed in 2008 as compared to previous years (P=0.0001). The sensitivity, specificity and accuracy of EUS with FNA were 92.7% (95% CI, 86.1-96.8), 92.5% (95% CI, 79.6-98.4), and 92.6(95% CI, 87.2-96.3) respectively. Summary: An increase in number of EUS cases with and without FNA has been shown over the past year. Hepatobiliary-pancreatic disease is the dominant indication of EUS-FNA is comparable to that reported on the current literatures. The overall accuracy of EUS-FNA is comparable to that reported on the current literatures.

Conclusion: The pattern of EUS usage in Thailand, a developing country, suggests wide acceptance of EUS for hepatobiliary-pancreatic disease. EUS course in the developing countries should, therefore, give greater training emphasis on hepatobiliary-pancreatic disease. An increase in awareness of the role and accuracy of EUS in GI cancer staging is also needed among providers.

O-5-2
Advanced Synchronous Adenoma But Not Simple Adenoma Predicts the Future Development of Metachronous Neoplasia in Patients with Resected Colorectal Cancer
Jae Hee Cheon1, Chang Mo Moon1, Eun Hee Choi2, Eun Soo Kim1, Jae Jun Park1, Song Yi Han1, Duk Hwan Kim1, Tae Il Kim1, Won Ho Kim1
1Department of Internal Medicine and Institute of Gastroenterology, Yonsei University College of Medicine, Seoul, 2Department of Biostatistics, Yonsei University College of Medicine, Seoul, Korea

Introduction: Patients with resected colorectal cancer remain at a high risk for developing metachronous neoplasia in the remnant colorectum. The aim of this study was to identify baseline clinical and colonoscopic features predictive of metachronous neoplasia after curative resection of colorectal cancer.

Methods: The baseline clinical and colonoscopic data and follow-up details of 503 patients that had colonoscopic surveillance after curative colorectal resection between January 2000 and October 2005 in a single tertiary institution were analyzed. Rates of development of new neoplasms were estimated by calculating the time from surgery to discovery, through which a prognostic scoring model was derived.

Result: Metachronous adenomas were diagnosed in 176 patients (35.0%) and advanced adenomas in 39 (7.8%) during the follow-up period (35.7±20.9 months). Among the clinical and colonoscopic factors at baseline, advanced age (≥60 years) (OR=3.64; 95% CI, 1.55 to 8.52), presence of advanced synchronous adenoma (OR=4.38; 95% CI, 1.77 to 10.85), and longer total follow-up period (OR=1.03; 95% CI, 1.01 to 1.04) were independently correlated with developing advanced metachronous adenoma. Patients who had synchronous tubular adenoma without advanced features at baseline were not found to have an increased risk for future development of advanced metachronous adenoma compared with those in the synchronous adenoma-free group (OR=1.75; 95% CI, 0.69 to 4.43, p=0.650).

Conclusion: Our data demonstrated that patients with advanced synchronous adenoma at baseline were identified to have an increased risk of advanced metachronous neoplasia during a longer follow-up period but those with tubular adenoma without advanced features at baseline were not.

O-5-3
The Discrepancy of Colonoscopic and Histopathological Findings in Infectious Colitis: Focus on Amebic Colitis
Salius Silih1, Marcellus Simadibrata2, Murdani Abdullah3, Abdul Aziz Rani2, Irsan Hasan3
1Department of Internal Medicine, M. Yunus General Hospital, Bengkulu, 2Division of Gastroenterology, Department of Internal Medicine, Faculty of Medicine, University of Indonesia, 3Division of Hepatology, Department of Internal Medicine, Faculty of Medicine University of Indonesia/Cipto Mangunkusumo General Hospital, Jakarta

Introduction: Result of colonoscopic examination in infectious colitis was varying. This study to recognize the correlation between colonoscopic and histopathological findings in patients with infectious colitis at Cipto Mangunkusumo Hospital.

Methods: A cross-sectional study had been conducted. There were 227 patients with infectious colitis who unidentified etiology and 17 patients with amebic colitis. In both groups, several variables had been studied including sex, age group and indication of colonoscopy by using Chi Square test. The relationship between hematochezia and amebic colitis event was also studied by using Chi Square test. To recognize the ability of colonoscopy test in diagnosing amebic colitis, we conducted diagnostic test by searching the sensitivity and specificity. Statistical analysis was performed by using the SPSS 12.0.

Result: In the both groups of infectious colitis, we found male more than female. There was significant different of mean age in both group of infectious colitis (p = 0.04). The mean age of amebic colitis group was younger (35.86 ± 14.36 years) than the infectious colitis group with unidentified etiology (45.34 ± 15.90 years). The incidence of amebic colitis in patients who has complaint of hematochezia more than the non-hematochezia complaint (p < 0.001). The sensitivity and specificity of colonoscopy in diagnosing amebic colitis were 35% and 97%, respectively.

Conclusion: There is a tendency of developing amebic colitis in patients with hematochezia than non-hematochezia complaint. In diagnosing the presence of amebic colitis, colonoscopy examination has low sensitivity and high specificity.
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O-5-4
The Clinical Manifestations of Atypical Hyperplasia in Colonic Adenomatous Polyp
Jinsong Liu, Xiaohua Hou
GASTROINTESTINAL DIVISION OF WUHAN UNION HOSPITAL, HUAZHONG SCIENCE & TECHNOLOGY UNIVERSITY

Introduction: The aim of the study was to analyze the clinical manifestations of atypical hyperplasia in colonic adenomatous polyp.

Methods: Three hundreds forty-four patients (241 male, 103 female) with colonic adenomatous polyp, which were confirmed by colonoscopy + biopsy in Wuhan Union Hospital Endoscopy Center during the period of 1997 to 2007 were involved in the study. Patients with multiple familial polyposis were excluded. The clinical manifestations, including age, sex, number and size of polyp were compared between the patients with or without atypical hyperplasia polyp.

Result: 1) Totally 557 polyps were found and biopsy were performed. In the 557 polyps, 121 polyps had atypical hyperplasia. The average size of the polyps with atypical hyperplasia was significantly higher than that without atypical hyperplasia (0.71±0.61 cm vs 0.31±0.16 cm, p<0.01). 2) In the 110 polyps whose size were larger than 0.5 cm, 76 polyps had atypical hyperplasia. While in the left 447 polyps whose size were less than 0.5 cm, only 45 polyps had atypical hyperplasia. The difference of atypical hyperplasia incidence between the two kind of polyps was significant (p<0.01). 3) The patients with atypical hyperplasia adenomatous polyp in male and female were 50 cases and 23 cases respectively. The difference was not significant (p>0.05). 3) In the patients whose age was less than 50 years, 32 cases had atypical adenomatous polyp, which was not different from those with the age higher than 50 years (41 cases, p=0.645). 4) The incidence of atypical hyperplasia in patients with single polyp was not different from that in the patient with multiple polyps (22.6% vs 20.0%, p=0.55).

Conclusion: The incidence of atypical hyperplasia is higher in the polyp with the size larger than 0.5 cm. The incidence of atypical hyperplasia is not associated with the age and sex.

O-6-1
Endoscopic Diagnosis and Treatment of Colorectal Carcinoid (Analysis of 45 Cases)
Liao Shan-ying, Wang Qi-yi, Liu Wan-wei, Liang Wei-min, Sha Wei-hong
DEPARTMENT OF GASTROENTEROLOGY, GUANGDONG GENERAL HOSPITAL, GUANGDONG ACADEMY OF MEDICAL SCIENCES, GUANGZHOU, CHINA

Objective: The aims of this study were to investigate the features of colorectal carcinoid under colonoscopy and endoscopic ultrasonography (EUS) and to evaluate the clinical values of endoscopic submucosal resection (EMR) on the diagnosis and treatment for colorectal carcinoids.

Methods: Forty five consecutive cases of colorectal carcinoid were enrolled in the study including 28 males and 17 females, average aged (51.8±13.8) years old from Jan, 2001 to July, 2009.

Results: Colonoscopic examination were performed in all patients. That the tumors located at the rectum were in 42 cases (42/45, 93.3%), at the sigmoid colon in 1 case, and ascending colon in 1 case, appendix in 1 case. The diameters of tumor varied from 2.0 mm to 10.0 mm. All rectal carcinoids were located within 3-8 cm of distal rectum from anal border. Most of the carcinoids under endoscope showed as elevated lesions of half-balled or flat type with slicking surface and defined border, hard texture, gray or yellow. In one rectal carcinoid case and one sigmoid colon carcinoid case, the endoscope appearance we difficult to discriminate from invasive carcinoma and the diagnosis were verified by postoperative pathologic examination and immunohistochemical stains.

EUS were performed in 7 rectal carcinoid cases. The characteristic features of rectal carcinoid under EUS included well-defined boundary, homogeneous echo in submucosa or mucosa, hypoechoic or isoechoic.

Excepting endoscopic direct removal by forceps in 1 rectal carcinoid case and operative resection in 2 cases of invasive lesions at rectum and sigmoid colon, all lesions were removed by EMR and the specimens were verified by pathological examination. All the lesions were excised completely without any immediate or late complications (bleeding or perforation). None of the 42 specimens showed histopathological evidence of tumor involvement at the resection margins. There was no local recurrence and distant metastases in any patients during the mean follow-up period of 3 years.

Conclusion: The therapy of colorectal carcinoid should be individualized according to the size and site of the tumor, extent of spread, and general conditions of the patients. EUS can provide precise information of rectal carcinoid about size, depth, border, muscularis propria and vessel infiltration. EMR is a useful and safe method for the treatment of colorectal carcinoid. The key factor to improve the effect of therapy is complete endoscopic resection of tumors.
However, ESD is not a standard procedure used to treat colorectal tumors because of the technical difficulties that arise because of the winding nature and thin wall of the colon. In the current study, we evaluated the efficacy of ESD and complications retrospectively.

**Methods:** We studied 189 colorectal tumors that were treated by ESD at Kyoto Prefectural University of Medicine or Nara City Hospital between 2005 and 2009. Tumor size, operation time, rate of en bloc resection, and complications were analyzed. Moreover, detailed analysis was made of the cases of perforation.

**Result:** The average tumor size was 29.6 mm; average operation time, 97 min; rate of en bloc resection, 91.0%. Perforation occurred in 5.8% of these 11 cases. All cases were detected during ESD and treated by clip closure during endoscopy and also were managed conservatively. On the other hand, there were two cases of postoperative hemorrhage (1.0%).

**Conclusion:** ESD effectively achieved a high rate of en bloc resection. On the other hand, it had a substantial perforation rate. Consequences of ESD in colorectal tumors have to be assessed further. However, the risk of perforation has possibility to be decreased by training and new device. Currently, we are working on these problems for the standardization of ESD for colorectal tumors.

**0-6-3**

**Clinical Outcome of Endoscopic Submucosal Dissection of Large Colorectal Tumors and Its Recent Technical Progress**

Takeshi Nakajima, Takahisa Matsuda, Taku Sakamoto, Takaya Aoki, Yutaka Saito

Endoscopy Division, National Cancer Center Hospital, Tokyo, Japan

**Introduction:** Endoscopic submucosal dissection (ESD) has recently been applied to the treatment of superficial colorectal cancer. Clinical outcomes compared with conventional endoscopic mucosal resection (EMR) have not been determined. First, our aim was to compare the effectiveness of ESD with conventional EMR for colorectal tumors ≥20 mm, retrospectively. Secondary we would like to show our practical method of ESD, using bipolar knife dissection with carbon dioxide insufflations and sodium hyaluronate acid injection.

**Methods:** A case-controlled study performed retrospectively between January 2003 and December 2006 involving 373 colorectal tumors ≥ 20 mm determined histologically to be curative resections at our institution. We evaluated histology, tumor size, procedure time, en bloc resection rate, recurrence rate, and associated complications for both the ESD and EMR groups.

**Results:** A total of 145 colorectal tumors were treated by ESD and another 228 were treated by EMR. ESD was associated with a longer procedure time (108 ± 71 min/29 ± 25 min; \( P < 0.0001 \)), higher en bloc resection rate (84%/33%; \( P < 0.0001 \)) and larger resected specimens (37 ± 14 mm/28 ± 8 mm; \( P = 0.0006 \)), but involved a similar percentage of cancers (69%/66%; \( P = NS \)). There were three (2%) recurrences in the ESD group and 33 (14%) in the EMR group (\( P < 0.0001 \)). The perforation rate was 6.2% (9) in the ESD group and 1.3% (3) in the EMR group (\( P = NS \)) with delayed bleeding occurring in 1.4% (2) and 3.1% (7) of the procedures (\( P = NS \)), respectively, as all complications were effectively treated endoscopically.

**Conclusions:** Colorectal ESD resulted in higher en bloc resection and curative rates compared with EMR, retrospectively. Recent technical progress is also overcoming the problem of its longer procedure time and higher perforation rate.
Introduction: *Helicobacter pylori* (H. pylori) is associated with chronic atrophic gastritis and intestinal metaplasia, an inflammatory precursor of gastric adenocarcinoma. In addition to *H. pylori* as an important risk factor, gastric adenocarcinoma, host susceptibility may help predict *H. pylori*-infected individuals with a higher risk of gastric adenocarcinoma. Interleukin (IL)-8 plays an important role in inflammation of gastric mucosa by *H. pylori* and is a potent angiogenic factor involved in tumor growth and metastasis. The aim of this study was to clarify the effect of IL-8 polymorphism on angiogenesis in the process of gastric carcinogenesis in *H. pylori*-infected Koreans.

Methods: The IL-8-251A/T polymorphism was genotyped by polymerase chain reaction-restriction fragment length polymorphism from a total of 395 subjects; 92 normal controls, 87 *H. pylori*-infected controls, 108 chronic atrophic gastritis and/or intestinal metaplasia and 108 adenocarcinoma. The gastric mucosal concentrations of vascular endothelial growth factor (VEGF), angiopoietin (Ang)-1, membrane metalloproteinase (MMP)-9 were measured by enzyme-linked immunosorbent assay.

Result: The concentrations of VEGF were decreased with disease progression in AT \((r = -0.44, p < 0.01)\) and TT genotype \((r = -0.43, p < 0.01)\), whereas Ang-1 were increased in AA genotype \((r = 0.40, p = 0.01)\) and MMP-9 were increased in AA \((r = 0.42, p = 0.01)\), AT \((r = 0.42, p < 0.01)\) and TT genotype \((r = 0.34, p < 0.01)\) with disease progression.

Conclusion: The IL-8-251 AA genotype may be associated with angiogenesis in gastric carcinogenesis in *H. pylori*-infected Koreans.
**P-1-3**

**Diagnosis of Obscure Gastrointestinal Hemorrhage with Capsule Endoscopy in Combination with Multiple-Detector Computed Tomography**

Bing-Ling Zhang, Ling-Ling Jiang, Chun-Xiao Chen, Bai-Shu Zhong, You-Ming Li

Department of Gastroenterology, The First Affiliated Hospital, College of Medicine, Zhejiang University, Hangzhou, China

**Introduction:** Gastrointestinal hemorrhage of obscure origin (GHOO) with negative gastroscopy and enteroscopy findings is frequently located in the small intestine. It is well known that Capsule Endoscopy (CE) is a good tool in the diagnosis of small intestinal hemorrhage. However, due to visual field restrictions random photographing, failed diagnosis is likely to occur. Now, the Multiple-Detector computed tomography (MDCT) technique has emerged as a newer diagnostic tool in small intestinal disorders, due to its ability to image intraluminal and extraintestinal lesions simultaneously. In this study, we want to demonstrate the clinical efficacy of combination capsule endoscopy (CE) and multiple-detector computed tomography (MDCT) diagnostic imaging in the identification of gastrointestinal hemorrhages.

**Methods:** In this study, 123 patients with gastrointestinal hemorrhages of obscure origin (GHOO) were examined with CE in combination with MDCT. These results were compared with findings of surgical pathology.

**Result:** Of the 123 patients, 57.72% (71/123) of the patients exhibited positive CE findings compared with 30.08% (37/123) on MDCT alone (p<0.01). When used in combination, 65.85% (81/123) of patients scored positively. The detection rate due to the combination of diagnostic imaging was significantly higher than that of MDCT alone (p<0.05). Integrating the two diagnostic platforms improved the diagnosis of stromal tumors, hemangioma, Crohn’s disease, vascular anomaly, Meckel’s diverticulum, and ancylostomiasis. There was no significant difference in the positive detection rate between CE and MDCT when confirmed by surgical pathology.

**Conclusion:** The contribution of CE is critical in the diagnosis of GHOO, given the fact that there is a significant difference in the detection rate between CE and MDCT, but there is no significant difference in the rate between CE plus MDCT and CE alone. Since the strength of MDCT was seen in the cases of tumors, we suggest that MDCT should be performed in the case of a negative CE, and further confirmation is needed when CE suggests a possible tumor.

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**P-1-4**

**Capsule Endoscopy in Thai Patients with Obscure Overt Gastrointestinal Bleeding: Different Etiologies and Diagnostic Yield from the Western**

Supot Pongprasobchai, Songla Jitsang, Nonthalee Pausawasdi, Varayu Prachayakul, Somchai Leelakusolvong, Sathaporn Manatsathit, Udom Kachintorn

Division of Gastroenterology, Department of Internal Medicine, Siriraj Hospital, Bangkok, Thailand

**Introduction:** Capsule endoscopy (CE) has become a standard investigation for patients with obscure overt gastrointestinal bleeding (OGIB) with a diagnostic yield of 63% from meta-analysis. The yield of CE and etiologies of OGIB in Thailand has not been studied and might be different from those of the Western.

**Methods:** Data of all patients with OGIB who underwent CE in our institute during 2005-2009 were reviewed. All CE video were re-reviewed by a single investigator (S.P.).

**Result:** Overall, there were 95 patients. The diagnostic yield for significant lesions was 45%. The most common etiology found by CE was small bowel tumor (23%), followed by NSAID-induced small bowel ulcers (16%), angiodysplasia (14%), Crohn’s disease (12%) and miscellaneous causes (28%). Three (7%) had active bleeding point without identification of the cause. CE results led to the change of patients’ management in 34% (74% of whom the etiologies were found). Capsule retention was found in 1 patient (1%).

**Conclusion:** The diagnostic yield of CE for OGIB in Thai patients is lower than those in the Western. Small bowel tumors and ulcers are more common than angiodysplasia which is the most common in the Western. CE leads to the change of management in 1/3 of cases.

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**P-1-5**

**Negative Capsule Endoscopy Does Not Predict Lower Long-Term Rebleeding Rates: A Study to Evaluate the Clinical Outcomes for Patients with Obscure Gastrointestinal Bleeding After Capsule Endoscopy-Guided Therapy**

Jae Jun Park, Jae Hee Cheon, Hyeun Sung Park, Chang Mo Moon, Jin Ha Lee, Sung Pil Hong, Tae Il Kim, Won Ho Kim

Department of Internal Medicine and Institute of Gastroenterology, Yonsei University College of Medicine, Seoul, Korea

**Background:** Capsule endoscopy (CE) is now widely accepted as a first-line diagnostic modality for obscure gastrointestinal bleeding (OGIB). However, the clinical implications of negative CE studies remain unclear.
Objective: To investigate long-term (> 1 year) outcomes for patients undergoing CE for OGIB and to identify risk factors associated with rebleeding.

Design and Setting: Retrospective study in a tertiary care hospital.

Methods: A total of 57 consecutive patients who had undergone CE for OGIB were enrolled and their pre- and post-CE clinical data was collected. ‘Specific treatments’ were defined as treatments directly aimed at presumed bleeding causes including hemostasis and disease-specific medical therapy, while ‘nonspecific treatments’ were defined as symptomatic treatments for anemia.

Results: Of the 57 patients, the indication for CE was obscure-overt bleeding in 46 patients and obscure-occult bleeding in 11 patients. Among 51 patients for whom long-term data was available, significant (P2) lesions were found in 23 patients (45.1%). The overall rebleeding rate was 35.3% during a mean follow-up duration of 32.3 ± 14.0 months. There was no statistically significant difference in the cumulative rebleeding rate between patients with positive and negative CE (34.8% versus 35.7%, respectively; P = 0.989). However, specific treatments after CE (odds ratio, 0.111; 95% CI, 0.013-0.980; P = 0.043) significantly decreased rebleeding.

Limitations: Small number of patients, retrospective study design.

Conclusions: The rebleeding rate for patients with OGIB and negative CE was substantial, indicating that these patients should be closely observed. However, specific treatment after CE significantly reduced the incidence of recurrent bleeding.

P-1-6

Mucosal Lesions of Portal Hypertensive Enteropathy Detected by Capsule Endoscopy: Is Transient Elastography of Clinical Impact?

Usama Mohamed Abdelaal, Eijiro Morita, Sadaharu Nouda, Takanori Kuramoto, Katsuhiro Miyaji, Hideo Fukui, Yasuhiro Tsuda, Akira Fukuda, Mitsuyuki Murano, Satoshi Tokioka, Eiji Umegaki, Kazuhide Higuchi
Second Department of Internal Medicine, Osaka Medical College, Takatsuki, Osaka, Japan

Background: There is limited data about the mucosal lesions of portal hypertensive enteropathy (PHE) detected by capsule endoscopy (CE), and there is no scoring system to evaluate their severity. To date, there are no published studies showing the association between PHE and transient elastography (TE).

Objective: To better define the mucosal abnormalities of PHE, their prevalence, and their association with the clinical, laboratory, and endoscopic features of the patients. Moreover, to declare the clinical impact of TE in the field of PHE and to create a reliable scoring system for mucosal findings of PHE.

Patients: A total of 50 prospectively recruited patients.

Methods: We compared the medical records of 30 patients with cirrhosis complicated by portal hypertension (PHT) with 20 control patients who underwent CE.

Results: Mucosal lesions compatible with PHE were significantly more common in cirrhotic patients than in control patients (70% vs. 10%, p <0.001). Cirrhotic patients with worsening Child-Pugh class, large EV, portal gastropathy (PHG), and history of endoscopic variceal injection sclerotherapy or ligation (EIS/EVL) were significantly associated with PHE.

The newest data showed that patients with higher TE score were significantly related with high PHE score (p = 0.029). Moreover, patients with a high Child-Pugh score (p = 0.027), larger EV (p = 0.013), and prior EIS/EVL (p = 0.013) were significantly associated with higher PHE score.

Conclusions: Mucosal lesions compatible with PHE included red spots, angioectasias, inflammatory like abnormalities, and SB varices, and their were more common cirrhotic patients than non cirrhotic patients. Our proposed scoring depend on giving two points for every lesion if it was multiple (more than two), and one point it was not. Cirrhotic patients with high TE score, worsening Child-Pugh score, large EV, and prior EIS/EVL are clinically associated with severe PHE (higher PHE score).

Poster Session 2

Chairpersons: Kenji Watanabe, Hiromi Katoaka

P-2-1

Risk for Gastrointestinal Bleeding in Older Elderly Patients Taking Low-Dose Aspirin in Japan

Takatsugu Yamamoto, Koichiro Hattori, Taro Ishii, Yasushi Kuyama
Department of Internal Medicine, Teikyo University School of Medicine, Tokyo, Japan

Introduction: As a number of patients taking low-dose aspirin has increased for prophylaxis of atherothrombotic diseases, the adverse effect of gastrointestinal toxicity has also increased gradually in Japan. Although previous reports from the western countries have suggested that elderly patients seem fragile for such GI injury, information regarding older elderly patients over 75 years of age is not plenty. Additionally, the risk of Japanese elderly patients for GI bleeding remains uncertain because of lack of clinical data. Here we conducted the present study to clarify whether the GI risk of older elderly patients taking low-dose aspirin is higher than younger patients in Japanese populations.

Methods: Study subjects were selected from all 5555 patients who underwent esophagogastroduodenoscopy (EGD) in our institute (Teikyo university hospital, Tokyo, Japan). After investigating medications of the patients, those who have received LDA continuously before and after EGD (more than one month) were included as the subjects. The exclusion criteria were malignant diseases found on EGD and in the other site. Finally 466 patients (69.5±11.1) were enrolled as the cohort, in which one-third were older elderly patients over 75 years or more. Based on the medical records, the outcome of the patients (death, cease of prescription, change of hospital, hospitalization due to GI bleeding) were investigated every three months till April 2009.
**Result:** Fourteen patients (2.9%) presented GI bleeding (5 from upper GI, 3 from the small intestine, 5 from colonic diverticula, and 1 from hemorrhoid). Twenty two (4.9%) died because of diseases other than GI events excepting one case with perforation of the small intestine. Of those GI bleeding cases, 12 were older elderly patients, and the calculated relative risk against younger patients was significant (10.5, 95%CI; 2.38-46.6). On the other hand, the mortality rates of the younger and older patients were similar.

**Conclusion:** Among Japanese population, older elderly patients taking low-dose aspirin had significantly higher risk for GI bleeding than the younger patients, especially regarding lower GI bleeding. Considering rapidly increasing high-aged population in Japan, it is very important to establish strategy for GI bleeding in older elderly patients.

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**P-2-2**

**Application of Double-Balloon Endoscopy in Follow-Up of Small Intestine Crohn’s Disease**

Yao Wei-yan, Xu Shu-qi, Miao Fei, Cheng Shi-dan, Zhong Jie, Zhu Qi

Department of Gastroenterology, Ruijin Hospital, Shanghai Jiaotong University, Shanghai, China

**Objective:** To investigate the value of double-balloon endoscopy (DBE) in the follow-up of small intestine Crohn’s disease (CD).

**Methods:** 41 patients who had already received the examination of DBE and had the diagnosis of intestine CD were enrolled. The clinical symptoms, the serology marks, the time of therapy and the mucosa recovery under DBE were evaluated after the regular treatment.

**Results:** 1. 92.7% of the patients were symptomatically relieved after a month of treatment. The CRP in 97.6% of the patients reverts to the normal level after two months of treatment. 2. After an average therapy time of 7.1±4.3, 16.5±7.1, 25.0±12.7 months, we can see no improvement & little improvement, improvement and obvious improvement of intestine mucosa under DBE respectively. 3. For those who have at the same time the lesions of intestine and colon, there is no difference between the improvement of intestine and colon mucosa.

**Conclusions:** 1. The mucosa recovers slowly in intestine CD. It needs more time than clinical relief and recovery of CRP. 2. The reasonable reexamination time of DBE is 10-15 months after the treatment. It is better to have the immunodepressant for long time. 3. For those who have at the same time the lesions of intestine and colon, we can use colonoscopy for reexamination.

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**P-2-3**

**Colonoscopy as an Adjunctive Method for Diagnosis of Irritable Bowel Syndrome: Focus on Pain Perception**

Eun Soo Kim¹, Jae Hee Cheon², Jae Jun Park², Chang Mo Moon², Sung Pil Hong², Tae Il Kim², Won Ho Kim²

¹Department of Internal Medicine, Division of Gastroenterology, Keimyung University School of Medicine, Daegu. ²Department of Internal Medicine and Institute of Gastroenterology, Yonsei University College of Medicine, Seoul, Korea

Visceral hypersensitivity has been known for one of the main pathophysiologies of irritable bowel syndrome (IBS). Authors investigated whether there was a difference in pain perception during colonoscopy between patients with IBS and healthy control or patients with other functional gastrointestinal disorders (FGID). Furthermore, we assessed the sensitivity, specificity, and the predictive values of pain scores to diagnose IBS. Patients who underwent colonoscopy for the evaluation of gastrointestinal symptoms or screening purpose were included. Patients with a history of previous abdomino-pelvic operations, diagnosis of organic diseases, or pre-medication with sedative agents, or those who had a polypectomy procedure during colonoscopy were excluded. All patients completed questionnaire of Rome III criteria and reported pain scores as 0-100 mm scales after colonoscopy. Subjects were divided into IBS, other FGID including functional bloating, functional diarrhea, and functional constipation, and healthy control. A total of 217 subjects were included. Pain score of IBS patients (median: 52, interquartile range: 34-71) was higher than that of healthy control (22, 12-35) or other FGID patients (18, 10-29) (p<0.0001). The upper gastrointestinal symptom was more observed in IBS group than in non-IBS group (83.2% vs. 34.5%, p<0.0001). At the level of score 31, the sensitivity, specificity, positive predictive value, and negative predictive value for IBS diagnosis were 86.1%, 75.9%, 75.7%, and 86.3%, respectively. The degree of pain perception during colonoscopy was higher in IBS patients than in healthy control or other FGID patients. Colonoscopy could be useful in helping identify IBS patients with an additional benefit of excluding organic disorders of lower GI tract.

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**P-2-4**

**Risk Factor for Lymph Node Metastasis after Endoscopic Resection for Early Colorectal Cancer**

Seok Won Jung, In Du Jung, Do Ha Kim

Department of Internal Medicine, Ulsan University Hospital, University of Ulsan College of Medicine, Ulsan, Korea

**Introduction:** Although endoscopic resection is widely adopted for the treatment of early colorectal cancer, the risk factors for lymph node metastasis are not clear. This study was designed to clarify risk factors for lymph node metastasis.
factors for lymph node metastasis in patients with colorectal cancer who were treated with endoscopic resection.

**Methods:** The medical records of patients with histologically proven early colorectal who underwent endoscopic resection between January 2002 and September 2008 were retrospectively reviewed. Information regarding the demographic data of patients, clinicopathological characteristics were recorded and analyzed.

**Result:** A total of 145 patients who underwent endoscopic resection for the early colorectal cancer were consequently collected for the study. Among these patients, 29 patients who underwent subsequent surgical treatment were finally enrolled in this study. Six patients (20.7%) had lymph node metastases on surgical pathologic examination. The predicting factors for lymph node metastases are 1) non-polypoid flat tumors (p=0.019), 2) absence of background adenoma (p=0.033), and deep submucosal invasion of ≥2,000 um (p=0.012). Unexpectedly, the presence of vascular invasion was not associated with lymph node metastasis.

**Conclusion:** The presence of vascular invasion alone might not be absolute indication of additional surgical treatment for the early colorectal cancer. However, deep submucosal invasion, accompanying gross tumor non-polypoid flat morphology and absence of background adenoma are potential risk factors for lymph node metastasis.

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**P-2-5**

**ERCP with the Double Balloon enteroscope in Patients with Altered Gastrointestinal Anatomy**

Hirotoshi Okazaki, Kazunari Tominaga, Yasuaki Nagami, Masami Nakatani, Satoshi Sugimori, M5ahiro Ochi, Reiko Ashida, Natsuhiko Kameda, Tetsuya Tanigawa, Hirokazu Yamagami, Kenji Watanabe, Toshio Watanabe, Yashiro Fujisawa, Tetsuo Arakawa

Department of Gastroenterology, Osaka City University Graduate School of Medicine

**Introduction:** Endoscopic retrograde cholangiopancreatography (ERCP) is technically more challenging in patients with altered gastrointestinal anatomy. We assessed the technical success of performing ERCP with the short double balloon enteroscope (DBE) in patients with altered gastrointestinal anatomy. Short DBE has a 2.8-mm working channel and a 152-cm working length.

**Methods:** In 13 patients (9 men; mean age, 69.6±6.7 (range, 58-81) years with a Roux-en-Y total gastrectomy (n = 8) and pancreatoduodenectomy (n = 5), ERCP (15 procedures) was performed with a “short” DBE between April 2008 and Jun 2009.

**Result:** Deep insertion was successful in 13/15 procedures (87 %). Cholangiogram was successfully obtained in 13/13 procedures (92 %). Treatment was accomplished in 12/13 procedures (92 %). Therapeutic interventions including stone extraction (n = 1), nasobiliary drainage (n = 2), stent placement (n = 3), tumor biopsy (n = 1), and removal of a foreign body(n=1) were performed successfully. No major complications occurred in our cases.

**Conclusion:** ERCP with a “short” DBE is effective in patients with altered gastrointestinal anatomy.
**P-3-2**

**MELD Combination with Blood Lipid Level in Evaluating the Prognosis of Decompensated Cirrhosis Patients**

Ming Jiang, Fei Liu, Wu-Jun Xiong, Lan Zhong, Wen Xu
Department of Gastroenterology, Shanghai East Hospital Affiliated to Tongji University, Shanghai, China

**Introduction:** To evaluate the prognostic value of the model for end-stage liver disease (MELD) combination with blood lipid level in decompensated cirrhosis patients.

**Methods:** 198 cases in patients of decompensated cirrhosis were enrolled into the study. The value of triglyceride (TG), cholesterol (TC), high density lipoproteins (HDL) and low density lipoprotein (LDL) of each patient on the first day of admission were retrieved from the medical records, and MELD were calculated. All patients were followed up 1 year. To compare of the relationship between the change of blood lipid level and the value of MELD score by analysis of variance (ANOVA). To screen the Prognostic Factors by Multivariate COX proportional hazard model. To draw Kaplan-Meier survival curves.

**Result:** Forty-five of the 198 patients died within 3 months and eight-three patients died within 1 year. The level of TG, TC, HDL and LDL of death group were all lower than those of survivors (P<0.05). The level of serum TG, TC, HDL and LDL value were decreasing with increasing of the MELD score. Multivariate COX proportional hazard model showed that MELD≥18 and TC≤2.8 mmol/L were independent risk factors for prognosis of decompensated cirrhosis patients. Survival analysis showed that MELD≥18 combined with TC≤2.8 mmol/L can clearly discriminated the patients who survived or died in 1 year.

**Conclusion:** MELD≥18 and TC≤2.8 mmol/L are two important index to predict the prognosis of patients with decompensated cirrhosis. Their combination can effectively predict Long-term prognosis of patients with decompensated cirrhosis.

**P-3-3**

**Effects in the Control of Edema of the Papilla by Epinephrine Saline Irrigation after ERCP: Exploratory Analysis to Evaluate the Characteristics of Eligible Patients with a Focus on Serum Amylase Levels**

Konosuke Nakaji1, Shigeo Suzumura2, Yukinori Nakae3, Kensaku Kojima1, Mitsutaka Kumamoto1, Tomonaga Kozu1, Kenjiro Tamori1, Tomoko Hara3, Kenji Matsuyama1, Akiko Shiotani4
1Endoscopy Center, Aishinkai Nakae Hospital, Wakayama, Japan, 2Department of Cancer Control and Statistics, Division of Epidemiology, Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan, 3Department of Internal Medicine, Saiseikai Arida Hospital, Wakayama, Japan, 4Department of Internal Medicine, Kawasaki Medical School, Kurashiki, Japan

**Introduction:** To evaluate the effects of the localized irrigating of epinephrine-added saline after endoscopic retrograde cholangiopancreatography (ERCP).

**Methods:** One hundred and fourteen patients who underwent ERCP in our institute were treated with or without into irrigation using of epinephrine diluted in saline after ERCP to prevent post-ERCP pancreatitis. The serum amylase levels, white blood cell counts, and urine amylase levels were measured at 24 and 48 hours after ERCP.

**Results:** The treatment resulted in improvements in all items. A univariate analysis of explanatory variables between the treatment and untreated groups revealed the treatment to be effective, but not statistically significant. Gender and cannulation of the pancreatic duct were the only variables with significant partial regression coefficients in the multiple regression model with all explanatory variables (P = 0.045). When a stratified analysis was conducted using gender as a moderator variable, the treatment became a significant preventive factor (P = 0.038), and cannulation of the pancreatic duct was a significant risk factor (P = 0.027) in female patients.

**Conclusion:** We suggest that irrigating with epinephrine saline into the papilla may be effective for preventing pancreatitis in female patients who received ERCP with cannulation of their pancreatic duct.

**P-3-4**

**The Feasibility and Safety of Iso-Tome Needle Knife Papillotomy for Difficult Bile Duct Cannulation – Comparison with Needle Knife Papillotomy**

Jung Gon Kim, Yeon Suk Kim, Yang Suh Ku, Yoon Jae Kim, Dong Kyun Park, Oh Sang Kwon, Yeon Soo Kim, Ki Baik Hahm, Ju Hyun Kim
Department of Internal Medicine, Division of Gastroenterology, Gachon University Gil Hospital, Incheon, Korea

**Introduction:** In ERCP, the initial cannulation failure rates are 5% to 15%. In difficult bile duct cannulation, precut papillotomy can
be performed with a 77% to 100% success rate of cannulation and a 1.9% to 22% complication rate. Iso-Tome was manufactured to reduce unintended deep cut and perforation. To our knowledge, no study has compared Iso-Tome precut papillotomy and needle knife papillotomy technique. We compared the success rate and complication of Iso-Tome precut papillotomy and needle knife precut papillotomy for difficult bile duct cannulation.

Methods: A retrospective analysis was made of 49 patient who underwent precut papillotomy by Iso-Tome needle knife or needle knife between January 2008 to June 2009. Success rate and complications of each procedure were evaluated. Other parameters such as age and gender of patients, presence of periampullary diverticulum, reasons for ERCP were also recorded.

Result: Precut papillotomy with Iso-Tome was used for 11 of 49 (22.4%) and 38 of 49 (77.6%) in needle knife precut papillotomy group. The success rate of cannulation was 81.8% (9/11) in Iso-Tome precut papillotomy group and 81.6% (31/38) in NK group. There was no statistical significance in two groups. No complications occurred in ITK group. However, in NK group, complications occurred in 4 of 38 patients (10.5%) and consisted of minor bleeding in 2, microperforation in one, minor bleeding and microperforation in one. All patients with complications recovered by conservative management.

Table 1 Knodell HAI score

<table>
<thead>
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<th></th>
<th>Periportal/bridging necrosis</th>
<th>Intrahepatic degeneration / focal necrosis</th>
<th>Portal inflammation</th>
<th>Fibrosis</th>
<th>HAI score</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0 group</td>
<td>0</td>
<td>0</td>
<td>0.33±0.52</td>
<td>0</td>
<td>0.33±0.52</td>
</tr>
<tr>
<td>D7 group</td>
<td>2.17±1.17*</td>
<td>1.83±0.75*</td>
<td>0.33±0.52</td>
<td>0</td>
<td>0.33±0.52</td>
</tr>
<tr>
<td>D18 group</td>
<td>3.67±0.52ab</td>
<td>2.83±0.41ab</td>
<td>2.17±0.41ab</td>
<td>3.33±0.52ab</td>
<td>12.0±1.10ab</td>
</tr>
</tbody>
</table>

*compared with D0 group P<0.01; abcompared with D7 group P<0.01

Conclusion: No significant difference was observed in success rate of cannulation between Iso-Tome precut papillotomy and needle knife precut papillotomy. Complications occurred in needle knife papillotomy group. Though there was no statistical significance of two groups in complication rate, it is our premature conclusion that Iso-Tome precut papillotomy seems to be safer than needle knife precut papillotomy. Further large comparative studies are needed to determine safety.

P-3-5

The Role of TGF-βs Expressed by Biliary Epithelial Cells in the Pathogenesis of Cholestatic Liver Disease

He Yao, Chen Bai-Li, Yang Rong-Ping, Zeng Zhi-Rong, Ren Ming

Department of Gastroenterology, the 1st Affiliated Hospital of SUN Yat-sen University, Guangzhou, China

Objective: From our previous study we proved that proliferation of biliary epithelial cells (BDECs) play a key role in the patho-

Fig. 1 Histological changes and immunohistochemistry study of rat livers. Histological study showed that liver injuries and the proliferation of intrahepatic bile ducts increased as the liver cholestasis persisted (×100).
Fig. 2 Levels of TGF-β1, TGF-β2, and TGF-β3 mRNA in liver tissues and BDECs. The levels of TGF-β1, TGF-β2, and TGF-β3 mRNA were significantly up-regulated in liver tissues and BDECs as the liver cholestasis persisted. *compared with D0 or D7 groups P<0.01, &compared with D7 group P<0.05.

Fig. 3 Correlation between Knodell HAI score and the levels of TGF-β1 mRNA. There was no correlation between Knodell HAI score and the levels of TGF-β1 mRNA in either liver tissues or BDECs (a and b); Positive correlation was found between Knodell fibrotic score and the levels of TGF-β1 mRNA in liver tissues and BDECs (c and d).
Results: 1) Knodell HAI score and the proliferation of intrahepatic bile ducts increased as the liver cholestasis aggravated. 2) The levels of TGF-β1, TGF-β2, and TGF-β3 mRNA were significantly up-regulated in liver tissues and BDECs as the liver cholestasis aggravated. 3) Positive correlation was found between Knodell fibrotic score and the levels of TGF-β1 mRNA in liver tissues and BDECs (r=0.9376, P<0.05 and r=0.9682, P<0.01). 4) In vitro study showed that TGF-β1 inhibited the proliferation of mIBEC.

Conclusions: 1) Liver injury and the levels of TGF-βs mRNA expression increased as liver cholestasis aggravated. 2) The interaction of TGF-β1 and BDECs plays an important role in the pathogenesis of BDL induced cholestatic liver disease. 3) Up-regulated expression of TGF-β1 mRNA in the proliferated BDECs participates in the formation of BDL induced cholestatic liver fibrosis.
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