



We would like to appreciate all of you joining T-CAP 2016.

This is The 4th T-CAP meeting, and we expect T-CAP 2016 will become more exciting with hotter discussion. T-CAP has two major missions: Collaboration and education.

We as pancreato-biliary interventional endoscopists need skills in endoscopic procedures as well as a wide knowledge of diseases, devices and treatment strategy, which we can share with international faculties through this meeting. Hot discussion is another feature, which makes T-CAP meeting special of all the conferences and meetings in this field. T-CAP encourages discussion on techniques and devices based on experiences and we can learn practical knowledge on the procedure and patient care.

And last but not least, we believe friendship among participants is the most important in this international meeting.

We can enjoy not only the scientific meeting but also chat during the meeting and party. Please enjoy food and drink with famous international endoscopists at party!

**Hiroyuki Isayama,
President of T-CAP**

FACULTY MEMBERS

Exclusive adviser **Kazuhiko Koike** (Tokyo University, Japan)
President **Hiroyuki Isayama** (Tokyo University, Japan)

Organizing committee

Chief: **Takao Itoi** (Tokyo Medical University, Japan)
Ichiro Yasuda (Teikyo University Mizonokuchi Hospital, Japan)
Hiroshi Kawakami (University of Miyazaki, Japan)
Iriru Maetani (Toho University Ohashi, Japan)
Keiji Hanada (Onomichi General Hospital, Japan)
Masayuki Kitano (Kinki University, Japan)
Atsushi Irisawa (Fukushima Medical University Aizu Medical Center, Japan)
Shomei Ryozaawa (Saitama Medical University, International Medical Center, Japan)
Tsuyoshi Hayashi (Hokkaido cancer center, Japan)
Akio Katanuma (Teine Keijinkai Hospital, Japan)

International organizing committee

Chief: **Hsiu-Po Wang** (Taiwan)
Jong Ho Moon (Korea)
Dong Wan Seo (Korea)
Hu Bing (China)
Christopher Khor (Singapore)
Thawee Ratanachu-ek (Thailand)
Ryan Ponnudurai (Malaysia)
James Lau (Hong Kong)
Sundeep Lakhtakia (India)
Rungsun Rerknimitr (Thailand)
Ang Tiing Leong (Singapore)

Secretaly general **Ichiro Yasuda** (Teikyo University Mizonokuchi Hospital, Japan)
Secretariats **Yousuke Nakai** (Tokyo University, Japan)
 Masaki Kuwatani (Hokkaido University, Japan)
 Takuji Iwashita (Gifu University, Japan)
 Kazuyoshi Tsuchiya (Tokyo Medical University, Japan)
 Shinpei Doi (Teikyo University Mizonokuchi Hospital, Japan)
 Natsuyo Yamamoto (Toshiba Hospital, Japan)
 Hirofumi Kogure (Tokyo University, Japan)
 Tsuyoshi Hamada (Tokyo University, Japan)
 Satoko Uchiyama (Tokyo University, Japan)



Exclusive adviser: **Kazuhiko Koike** (Tokyo University, Japan)



Dr. Koike obtained his M.D. degree from The University of Tokyo in 1980. From 1986-89, he worked in National Cancer Institute, Bethesda, as a visiting fellow. In 2009, has been appointed as the Professor and Chairman of Department of Gastroenterology, The University of Tokyo.

He has been installed as Director General of The Japan Society of Hepatology (JSH) since May 2010. He is a board-certified hepatologist and gastroenterologist. His major research efforts have been directed toward the elucidation of mechanism of hepatocarcinogenesis in hepatitis C and B. He has published more than 500 papers, book chapters and miscellaneous publications.

President: **Hiroyuki Isayama** (Tokyo University, Japan)



Lecturer, Department of Gastroenterology, Training Program for Oncology Professionals, Graduate School of Medicine, The University of Tokyo.

He is both interventional-endoscopist and oncologist in the pancreato-biliary field. He published first RCT of covered vs. uncovered self-expandable metallic stent (SEMS) and showed the superiority of covered-SEMS for the distal biliary obstruction. He also published some clinical studies of chemotherapy as a chief-investigator. He has published more than 140 peer-reviewed articles (IF > 500). He was invited internationally 25 times for lecture and 9 for endoscopic live-demonstration in this 5 years. He is member of editorial-board of 5 journals.

Organizing committee



Chief Takao Itoi (Tokyo Medical University, Japan)

Dr. Takao Itoi is presently the associate professor of the Tokyo Medical University at Tokyo, Japan. Dr. Takao Itoi graduated from Tokyo Medical University in 1991 and had worked in Tokyo Medical University Hospital as a gastroenterologist. His major is diagnostic and therapeutic endoscopy in pancreaticobiliary diseases by means of EUS and ERCP. Until now, he has outstanding endoscopic skill and has published many papers in high impact factor journals on the novel and special techniques and outcome.



Ichiro Yasuda (Teikyo University Mizonokuchi Hospital, Japan)

Dr Ichiro Yasuda is Professor and Director at the Department of Gastroenterology, Teikyo University Mizonokuchi Hospital, Japan. After his graduation from Gifu University School of Medicine in 1990, he received his training in Gastroenterology at Gifu University Hospital and subsequently at the world renowned University Hospital Hamburg-Eppendorf under the direction of Professor Nib Soehendra. Dr Yasuda is an expert in ERCP and endoscopic ultrasonography (EUS). After he had gained experience for more than 20 years in Gifu and published more than 110 peer-review English articles, he has promoted to the current position in 2014.

FACULTY MEMBERS**Hiroshi Kawakami** (University of Miyazaki, Japan)

Professor, Department of Gastroenterology and Hepatology, Center for Digestive Disease, The University of Miyazaki. He is interventional-endoscopist, endosonographer and oncologist in the pancreatico-biliary disease. He has an extreme interest in hepato-pancreatico-biliary strictures. He published preoperative biliary drainage in patients expected to undergo definitive surgery for hilar cholangiocarcinoma. A breakthrough in his work causes a paradigm shift in guideline for the management of bile duct cancer. Recently, he also published some randomized controlled trials of selective bile duct cannulation as a chief-investigator. He published about 50 peer-reviewed international articles and more than 100 domestic publications.

**Iruru Maetani** (Toho University Ohashi, Japan)

Professor and Chairman

Division of Gastroenterology and Hepatology, Department of Internal Medicine
Toho University Ohashi Medical Center

Dr. Iruru Maetani is Chairman and Professor of Gastroenterology at Toho University Ohashi Medical Center in Tokyo. He has worked for over 30 years in the hospital after his graduation from Toho University. He is devoting clinical practices and research and to undergraduate and postgraduate medical education. His special research interests include diagnostic and therapeutic endoscopy and interventional radiology for gastroenterological diseases, especially gastrointestinal/biliary stenting, gastrostomy and various palliative interventions for advanced cancers. He is currently a member of many domestic and international societies, and a member of editorial and review board of international journals.

**Keiji Hanada** (Onomichi General Hospital, Japan)

Chief, Center for Gastroendoscopy, Onomichi General Hospital
Clinical Professor, Hiroshima University School of Medicine

He is graduated from Shimane Medical University (1988), and the postgraduate course of Hiroshima University, with the degree of PhD (1996). He belongs to Japan Gastroenterological Endoscopy Society, Japanese Society of Gastroenterology, Japan Pancreas Society, Japan Biliary Association as councilor, and Japanese Society of Internal Medicine, Japanese Cancer Association and Japanese Society of Medical Oncology. He is both skilled endoscopist and oncologist. Now he is advancing the clinical project to detect the early stage pancreatic cancer in Onomichi City.

**Masayuki Kitano** (Kinki University, Japan)

Department of Gastroenterology and Hepatology, Kinki University Faculty of Medicine, Japan

Dr. Masayuki Kitano is Associate Professor of Department of Gastroenterology and Hepatology, Kinki University Faculty of Medicine. He has studied in the field of pancreatobiliary diseases, particularly endoscopic diagnosis and treatment. He and his colleagues made a novel EUS system equipped with contrast harmonic imaging which allowed visualization of tissue microcirculation, and reported its utility for diagnoses of pancreatobiliary and gastrointestinal diseases. By this work, he received the Ito Award from Japan Society of Ultrasonics in Medicine. He works as a councilor of the Japanese Society of Gastroenterology, of the Japan Gastroenterological Endoscopy Society, of the Japan Pancreas Society and of the Japanese Society of Clinical Pharmacology and Therapeutics. He has authored / co-authored more than 100 peer reviewed English publications



Atsushi Irisawa (Fukushima Medical University Aizu Medical Center, Japan)

Prof. Atsushi Irisawa is a Professor of Gastroenterology, Fukushima medical university Aizu medical center. Graduated from the School of Medicine, Dokkyo Medical University in 1989, and obtained PhD from Fukushima Medical University in 1996. He was visiting faculty of Center for EUS, University of Florida, and worked with Professor Bhutani in 2000. His specialty is mainly endoscopic diagnosis and treatment for pancreatobiliary area, especially interventional EUS and ERCP. However that may be, he plays an active part in the wide-ranging digestive disease; member as councilor in the Japanese Gastroenterological Endoscopy Society, Japanese Society of Gastroenterology, Japan Pancreas Society, Japanese Society of Portal Hypertension, Japanese Gastroenterological association, and international member of American Society for the Gastrointestinal Endoscopy.



Shomei Ryozaawa (Saitama Medical University, International Medical Center, Japan)

Dr. Shomei Ryozaawa graduated from Yamaguchi University in 1991 and took his PhD in 1997. He worked at Dept. of Endoscopy in Hamburg University Eppendorf Hospital (Prof. Nib Soehendra) from 2000 to 2001. He has been appointed as the Professor and Chairman of Department of Gastroenterology, Saitama Medical University International Medical Center in 2013. He serves as a reviewer for over 10 journals. He is an expert in ERCP and EUS-FNA, and has been invited for many live demonstrations.



Tsuyoshi Hayashi (Hokkaido cancer center, Japan)

Dr. Tsuyoshi Hayashi is the assistant professor of Department of Gastroenterology, Hokkaido Cancer Center, Japan. He graduated in 1996 and earned PhD. in 2005 from Sapporo Medical University. His specialties are pancreatobiliary diseases including not merely endoscopic procedure but also clinical oncology, and he has extensively published papers in this area.



Akio Katanuma (Teine Keijinkai Hospital, Japan)

Dr. Akio Katanuma is presently the head of the Center for Gastroenterology, Teine-Keijinkai hospital, which is one of the most high volume hospitals in Japan. Dr. Akio Katanuma graduated from Sapporo Medical University in 1991. He belongs to Japan Gastroenterological Endoscopy Society, Japanese Society of Gastroenterology as council, Japan Pancreas Society, Japan Biliary Association as councilor, Japanese Society of Internal Medicine, and American Society for the Gastrointestinal Endoscopy. His specialty is mainly endoscopic diagnosis and treatment for pancreatobiliary diseases.

FACULTY MEMBERS

International organizing committee

**Chief Hsiu-Po Wang** (Taiwan)

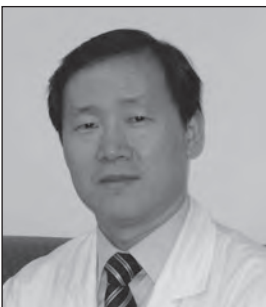
Prof. Hsiu-Po Wang, is the Chief of Division of Endoscopy of National Taiwan University Hospital and Professor of Internal Medicine, College of Medicine, National Taiwan University. He is the current President of the Digestive Endoscopy Society of Taiwan (DEST). Internationally, he is the member of Endoscopy Interest Group of WGO 2013~2015. He is skillful with many endoscopic techniques. Besides his majors of ERCP and EUS/interventional EUS, he also involves emergent endoscopic procedures, IEE (NBI, i-scan, AFI), endoscopic tumor ablation techniques, (EMR/ESD, APC, RFA), enteroscopy/capsule endoscopy, esophageal/enteric stenting. He has been active in many international meetings and has been invited for chair, speech and live demonstration.

**Jong Ho Moon** (Korea)

Professor of Medicine

SoonChunHyang University School of Medicine, Bucheon/Seoul, Korea

Dr. Moon is currently the Chief of Division of Gastroenterology, Director of Digestive Disease Center of SoonChunHyang University Hospital of Bucheon, Korea. His specialty includes diagnostic and therapeutic endoscopy of pancreaticobiliary tract diseases, especially through ERCP and EUS. Dr. Moon is involved in the clinical research of pancreaticobiliary endoscopy and has published extensively in high ranked journals. Dr. Moon is also actively involved in the development of metal stents, and endoscopic accessories. Dr. Moon has been invited to many international endoscopic symposiums in the world. Several Awards received locally, and nationally.

**Dong Wan Seo** (Korea)

Biography: Pf. Dong Wan Seo is a specialist on pancreatico-biliary endoscopy and EUS.

His current position is a full professor of Department of Gastroenterology, University of Ulsan Medical College, Asan Medical Center.

He has created a lot of advanced endoscopy works to the World of GI Endoscopy including his own classification of cholangioscopic reading, EUS-guided treatment of pancreatic cystic tumors. He is actively conducting many studies related to interventional EUS. Currently Prof. Seo is also serving as Secretary General of World Endoscopy Organization (WEO), Chairman of Educational Committee in Korean Society of Gastroenterology (KSG), and Director of Gastroenterology Specialty Board in Korean Society of Internal Medicine (KSIM). He is also working as an editorial board member of Endoscopy, Gastrointestinal Endoscopy and World Journal of Gastroenterology.

**Hu Bing** (China)

Professor, Head of Endoscopy Center
Eastern Hepatobiliary Hospital
Second Military Medical University

absent



Christopher Khor (Singapore)

Dr Christopher Khor attended medical school at the National University of Singapore, and completed clinical fellowships in ERCP and in Endoscopic Ultrasound (EUS) at the Medical University of South Carolina and Indiana University Medical Center respectively. More recently, he trained in Endoscopic Submucosal Dissection in Japan. His main practice areas are in pancreato-biliary disease (ERCP and EUS), endoscopic resection and general gastroenterology. Dr Khor has more than 20 peer-reviewed papers to his name, serves on the editorial board of Endoscopic Ultrasound, and is a reviewer for other endoscopy and GI journals. He has a keen interest in endoscopic quality and education, and in promoting cross-border co-operation among the regional endoscopic community. His regional work includes regular faculty invitations to demonstrate and teach endoscopy. Dr Khor currently co-chairs an Asia-Pacific group focused on EUS education. He was Vice-President of Asian-Pacific Digestive Week 2011 in Singapore, for which he directed Endoscopy programming, and is a past President of the Gastroenterological Society of Singapore.



Thawee Ratanachu-ek (Thailand)

Dr.Thawee is currently a director of surgical endoscopy unit ,Chief of general surgery division, department of surgery, Rajavithi hospital which is a tertiary care of gastrointestinal specialty in Thailand. He graduated from Siriraj Medical School, Mahidol University then received a board of surgery, he gained his endoscopic experiences from a short term visiting in various famous centers. His main interests are all kinds of therapeutic endoscopy and EUS especially hepato-pancreato-biliary area. He extensively provides training to young endoscopists both locally and internationally. Formerly he also held the position of president of Thai Association of Gastrointestinal Endoscopy (TAGE) during 2012-2013.Currently he is the chief of Gastrointestinal Endoscopy Summit Thailand (GEST) and Clinical Instructor at Rungsit Medical College, Rungsit University, Thailand.



Ryan Ponnudurai (Malaysia)

Dr Ryan Ponnudurai is a U.S.board certified gastroenterologist with advanced training in interventional endoscopy and endoscopic ultrasound . He has pioneered the training and development of eus in Malaysia . He is the chairman of eus tap (task force in eus training in the Asia pacific region) and was recently elected as Vice President of the international EUS society .



James Lau (Hong Kong)

Dr. James Lau graduated from the Medical School of the University of New South Wales, Sydney, Australia. Dr. Lau is currently Professor of Surgery and Director to Endoscopy Center at the Prince of Wales Hospital, the Chinese University of Hong Kong. Dr. Lau is known internationally for his clinical research in the management of bleeding peptic ulcers. He published several landmark studies investigating the relative roles of endoscopic treatment, pharmaco-therapy and surgery. His recent projects include the use of angiographic coiling in the treatment of bleeding ulcers refractory to endoscopic hemostasis, endoscopic metallic stenting of hilar malignancy and direct cholangioscopy.

FACULTY MEMBERS**Sundeep Lakhtakia** (India)

I, Dr Sundeep Lakhtakia, am senior consultant at Asian Institute of Gastroenterology, Hyderabad, India with special interest in EUS, therapeutic endoscopy & ERCP.

I graduated (MBBS) from MAMC, New Delhi, followed by MD (Internal Medicine) from prestigious PGIMER, Chandigarh, and DM (Gastroenterology) from SGPGIMS, Lucknow in 1998.

I received advanced training in "Endoscopic Ultrasound" at MUSC, Charleston, South Carolina, USA.

I have various publications in national & international journals. I am peer reviewer in national and international journals. I have received various awards and scholarships during my academic career, including prestigious "Young Investigator Award" at APDW at Philippines in 2006.

**Rungsun Rerknimitr** (Thailand)

Rungsun Rerknimitr graduated from Chulalongkorn University, Thailand with honor. He obtained his American Board of Internal Medicine from Rush Medical College, Chicago in 1996. Later, he pursued his Gastroenterology fellowship from Louisiana State University in New Orleans. Before he returned to Thailand, he obtained an ERCP fellowship from Indiana University. To date he has published 7 English-GI Endoscopy Atlases and more than 100 articles in peer review GI journals. He is currently a Professor of Medicine and a Director of GI Endoscopy Excellence Center at Chulalongkorn University, Bangkok, Thailand. He is also a founding member of the Thai Association of Gastrointestinal Endoscopy (TAGE) and also a past chief editor of the Thai Journal of Gastroenterology. He is now the current president for TAGE (2014-2016). He recently won the award as the most achievement young internist (2013) from the Thai Royal College of Physicians. In 2014, he received the most achievement in research award from Chulalongkorn University. In 2015, he received the award as the great teacher from Chulalongkorn University and in the same year the Royal College of Physician (London) awarded him as the honorary fellow recipient (FRCP). His main endoscopic interest is therapeutic ERCP with a special interest in metallic stent clinical application. His extra-endoscopy medical interest is telemedicine.

**Ang Tiing Leong** (Singapore)

Dr Ang is Chief and Senior Consultant at the Department of Gastroenterology and Hepatology, Changi General Hospital, Singapore. He is the Director of the Endoscopy Centre. He is Adj Associate Professor at the Yong Loo Lin School of Medicine, National University of Singapore. He has subspecialty clinical interests in pancreaticobiliary diseases, early GI cancers and advanced therapeutic endoscopy, in particular therapeutic ERCP and interventional EUS. His research interests include acid-related disorders, H. pylori infection, pancreatico-biliary diseases, image enhanced endoscopy, therapeutic ERCP and interventional EUS.

Secretaly general**Ichiro Yasuda** (Teikyo University Mizonokuchi Hospital, Japan)

Dr Ichiro Yasuda is Associate Professor of Medicine and Gastroenterology at the First Department of Internal medicine, Gifu University Hospital, Japan. He is also the head of the pancreatobiliary section at Gifu University Hospital. After his graduation from Gifu University School of Medicine in 1990, he received his training in Gastroenterology at Gifu University Hospital and subsequently at the world renowned University Hospital Hamburg-Eppendorf under the direction of Professor Nib Soehendra. Dr Yasuda is an expert in ERCP and endoscopic ultrasonography (EUS), and has published extensively in pancreatobiliary diseases.



Secretariats



Yousuke Nakai (Tokyo University, Japan)

Assistant Professor, Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo.

He is interested in both advanced endoscopic procedures for pancreato-biliary diseases and oncology for pancreatic cancer. He finished advanced EUS fellowship with Prof. Kenneth Chang at University of California, Irvine and conducted a prospective study of EUS-guided “through-the-needle” diagnosis of pancreatic cysts using Spyglass and nCLE. He published many (>100) articles regarding interventional endoscopy, oncology and the combination, “interventional oncology; iOncology.”



Masaki Kuwatani (Hokkaido University, Japan)

Assistant professor, Department of Gastroenterology and Hepatology, Hokkaido University Hospital. He graduated from Hokkaido University and has been engaged in the pancreato-biliary field as both a physician and endoscopist for 14 years. He recently reported RCT of CO2 vs. air insufflation during ERCP and showed that patients’ discomfort after ERCP can be alleviated effectively by deep conscious sedation during ERCP regardless of insufflation gas used. He has published about 30 peer-reviewed international and 25 domestic articles.



Takuji Iwashita (Gifu University, Japan)

Dr Takuji Iwashita completed his medical degree as well as his Ph.D. at Gifu University. He received his training in Gastroenterology at Gifu University Hospital and subsequently at University of California, Irvine under the direction of Prof. Kenneth J. Chang. He is currently Assistant Professor of Gastroenterology at First Department of Internal Medicine, Gifu University Hospital. His clinical research focuses on endoscopic ultrasound (EUS) guided procedures. His clinical expertise in pancreato-biliary endoscopy includes EUS, EUS-guided procedures, and endoscopic retrograde cholangiopancreatography (ERCP).



Takayoshi Tsuchiya (Tokyo Medical University, Japan)

Assistant Professor, Department of Gastroenterology and Hepatology, Tokyo Medical University I am interested in both diagnostic & therapeutic endoscopy and diagnostic & therapeutic endoscopic ultrasonography. I completed my medical degree as well as Ph.D. at Tokyo Medical University. I received training in Gastroenterology at Tokyo Medical University and Teine keijinkai general hospital. I have been given World Cup of Endoscopy Silver Medal in 2013 at DDW, Orland.



Shinpei Doi (Teikyo University Mizonokuchi Hospital, Japan)

EDUCATION

2002 M.D. Nagasaki University School of Medicine

2014 Ph.D. Gifu University

PROFESSIONAL TRAINING AND EMPLOYMENT

2014-present Assistant Professor, Dept of Gastroenterology, Teikyo University School of medicine University, Mizonokuchi Hospital

2006-2014 Medical staff, First Department of Internal Medicine, Gifu University Hospital

2002-2005 Resident, Second Department of Internal Medicine, Kobe University Hospital

FACULTY MEMBERS**Natsuyo Yamamoto** (Toshiba Hospital, Japan)

Dr. Natsuyo Yamamoto is a doctor of Toshiba hospital, Japan. She graduated from Chiba University in 1998 and had worked as a gastroenterologist in Tokyo University Hospital, Japanese Red Cross Medical Center and International University of Health and Welfare Mita Hospital. Her major is diagnostic and therapeutic endoscopy in pancreaticobiliary diseases. She also specialized in endoscopic intervention for severe pancreatitis.

**Hirofumi Kogure** (Tokyo University, Japan)

Dr. Hirofumi Kogure is Assistant Professor at the Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, Japan. He graduated from The University of Tokyo in 2001. His clinical and research interests include therapeutic pancreaticobiliary endoscopy and endoscopic ultrasound, especially biliary stenting, endoscopic papillary large balloon dilation, and Double-balloon endoscopy-assisted ERCP.

**Tsuyoshi Hamada** (Tokyo University, Japan)

Dr. Hamada received his M.D. degree from The University of Tokyo in 2005 and his Ph.D. degree from Graduate School of Medicine, The University of Tokyo in 2013. He is a young and eager interventional endoscopist in the field of pancreato-biliary diseases, and his research interests have been biliary self-expandable metal stents for malignant biliary obstruction including antireflux stents and endoscopic biliary drainage under the presence of duodenal tumor invasion. He is also specialized in percutaneous transhepatic cholangioscopy using an ultraslim upper endoscope and CO2 insufflation. He is well trained in biostatistics and epidemiology, and has published articles on risk factors for biliary stent dysfunction using statistical methods. He is currently a postdoctoral fellow in Department of Medical Oncology at Dana-Farber Cancer Institute and Harvard Medical School (Boston, MA, USA). The focus of his research in this laboratory is on cancer immunology and molecular pathological epidemiology of gastrointestinal cancers including pancreatic cancer and colorectal cancer.

**Kazumichi Kawakubo** (Hokkaido University Graduate School of Medicine, Japan)

Assistant professor, Department of Gastroenterology and Hepatology, Hokkaido University Graduate School of Medicine

He graduated from Hokkaido University School of Medicine and earned PhD at Graduate School of Medicine, The University of Tokyo in 2011. He elucidated that the incidence of extrapancreatic malignancy in patients with intra-ductal papillary mucinous neoplasms is not higher than that in general population. His clinical research focuses on EUS-guided intervention and ERCP-related procedures, especially biliary stenting. He is now conducting a multicenter randomized trial comparing side-by-side and stent-in-stent placement for hilar malignant biliary obstruction.

**Satoko Uchiyama** (Tokyo University, Japan)

She graduated Aoyama Gakuin University College of Literature Department of History. She is working from 2011 as a secretary of the University of Tokyo Hospital Department of Gastroenterology group.

ACCESS

The Ito International Research Center is located on the Hongo Campus in central Tokyo. There are several options for access from Narita Airport.

Narita Express

Take the JR Narita Express train from the basement of the airport building to Tokyo Station. Trains run approximately every thirty minutes and take about either 60 or 90 minutes to reach Tokyo Station. Tickets cost about 3,000 yen. From Tokyo Station take the Marunouchi Metro line (Ikebukuro direction) and get off at Hongo Sanchoime Station. Trains run every few minutes and take about 8 minutes. Tickets cost 170 yen.

Keisei Express "Skyliner"

Take the Keisei Express "Skyliner" from the basement of the airport building to Keisei Ueno. Trains run approximately every twenty minutes and take 44 minutes to reach Keisei Ueno Station. Tickets cost about 2,470 yen. Take a taxi from Keisei Ueno Station to the Hongo Campus, or walk (about 20 minutes; includes uphill sections).

Limousine Bus

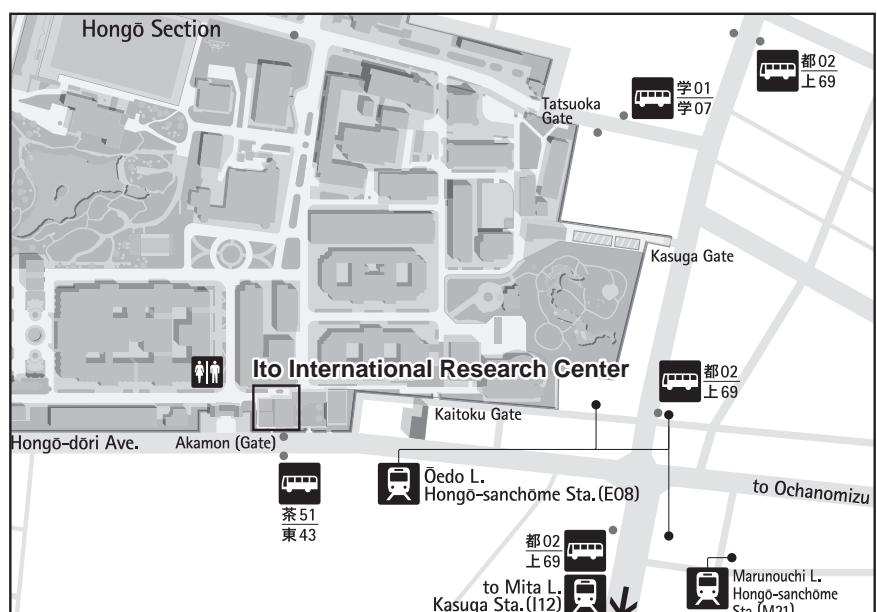
Take the Limousine Bus from outside the terminal building immediately opposite the exit from customs. Buses run every twenty to thirty minutes and take up to 120 minutes, depending on the traffic. Tickets cost 3,100 yen. From Tokyo Station take the Marunouchi Metro line (Ikebukuro direction) and get off at Hongo Sanchoime Station. Trains run every few minutes and take about 8 minutes. Tickets cost 170 yen.

Taxi

Narita Airport is about a two-hour drive from Tokyo. Taking a taxi from the airport is not recommended as it is expensive (about 20,000 yen), but you can take a taxi from Tokyo Station if you prefer not to take the Metro.

Access Map

The University of Tokyo
Ito International Research Center
7-3-1 Hongo, Bunkyo-ku, Tokyo
113-0033 JAPAN



CONGRESS INFORMATION

Registration	
Registration Desk	In front of "Ito Hall", B2F, ITO INTERNATIONAL RESEARCH CENTER
Open hours	Friday, June 17 9:00-21:00 Saturday, June 18 9:00-17:00
Registration Fee	Onsite registration: JPY 15,000 Pre-registration: JPY10,000 Medical company person: JPY15,000
Entitlements	Participants' registration includes: + Participation in the Scientific Program + Abstract Book + Luncheon Seminar + Coffee Breaks + Dinner Party + Morning Seminar
Payment Method	Payment must be made in JPY (Japanese Yen), cash and credit card.

Instruct for Presentation	
Symposium (Oral Presentation)	<ul style="list-style-type: none"> • All speakers, please bring one's PC. And the person using the Macintosh PC, please bring the Adapter. All speakers, please provide and bring the back-up data by USB flash memory, and see the following information. • All speakers are requested to come to the PC Center at least 30 minutes prior to their presentations in order to verify if the data functions properly on the equipment provided. • If you have prepared data by Windows PC, please bring your data by USB flash memory. Your presentation data will be loaded onto a central server and distributed to an appropriate session room at an appropriate time via a LAN . • If you have prepared data by Macintosh , please bring your Macintosh with you. • Please operate a mouse and keypad at the podium when you make a presentation.
Data Preparation (for Windows)	<ol style="list-style-type: none"> 1. The operating system must be Windows 2000 or later. 2. Presentation slide must be prepared by Microsoft PowerPoint 2003/2007/2010 and the following OS standard fonts: [English] Times New Roman, Arial ,Arial Black ,Arial Narrow ,Century ,Century Gothic ,Courier ,Courier New ,Georgia 3. Animation and movies can be included but it should be played by default codec of Windows Media Player 11. 4. Audio can be included as well. 5. File size should be less than 700MB including movies. 6. Resolution of presentation PC is set as XGA (1.024×768). Please be sure to change your resolution to XGA before reviewing the layout. 7. In order to avoid virus infection, please scan your data with the updated antivirus program beforehand. 8. Your presentation data loaded onto the server will surely be deleted by the congress secretariat after the congress.



Instruct for Presentation

For those who bring their own computers

1. No regulation for computer models, OS and applications, but your computer must have VGA D-sub15 pin female output. Special video output cable is required for some laptops to use D-sub 15pin to connect to external monitors and data projectors.

D-sub 15pin e.g. output cables

2. Please review your data at PC Center if it works properly if video and audio included.
3. Resolution of presentation is set as XGA (1.024×768). Please be sure to change your resolution to XGA before reviewing the layout.
4. Please make sure to bring AC power cable with you. Running your computer with battery only might cause a trouble.
5. It is recommended to have your data backed up in case of computer trouble.
6. After your presentation finished, your computer will be returned to you. Please come to the operator's desk and certainly collect your computer.

	Friday, June 17 9:00 - Saturday, June 18 17:00
Schedule	<ul style="list-style-type: none"> • June 17(Fri) 13:15-14:30 Poster Discussion <p>Poster presentator, please come in front of your poster at time of Poster Discussion round mentioned above.</p> <ul style="list-style-type: none"> • June 18(Sat) 13:30-14:00 Poster Discussion

	Poster: 90cm wide×180cm high Label : 70cm wide×20cm high	
Poster size	<ul style="list-style-type: none"> • Your assigned board will be indicated with your poster program number. • Please prepare a label showing the title , institution , and speaker's name. • Pins for mounting will be available from the Poster Session area. 	

	<p>**Note**</p> <ul style="list-style-type: none"> • Posters should be brought personally to the congress and not mailed. The Organizing Committee is unable to take any responsibilities for any loss or mishandling. • Presenters are responsible for posting and removing their own materials. • Audio-Visual equipments may not be used.
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TIME TABLE

Friday, June 17	
9:00	Opening remarks (9:00-9:10)
9:30	Session 1 (9:10~10:30): "Current strategy of management of benign biliary stricture"
10:00	
10:30	Coffee break (10:30~10:45)
11:00	Special session (10:45-12:00): Lecture from the master 1
11:30	
12:00	COOK JAPAN Incorporated Luncheon Seminar (12:00-13:15)
12:30	
13:00	Poster & Exhibition round (13:15~14:30)
13:30	
14:00	Session 2 (14:30~15:30): Free paper session 1
14:30	
15:00	Session 3 (15:30~17:00): Current strategies in EUS-FNA and interventional EUS
15:30	
16:00	Coffee break (17:00-17:15)
16:30	
17:00	Session 4 (17:15-18:15): Recent progress in ERCP related procedures
17:30	
18:00	TaeWoong & CMI Satellite symposium (18:15~19:30)
18:30	
19:00	photographing (Invite/Faculty/Secretary)(19:30)
19:30	
20:00	Dinner Party (19:30~21:00)
20:30	
21:00	

Saturday, June 18	
9:00	Hitachi, Ltd. Morning seminar (9:00-10:00)
9:30	
10:00	Session 5 (10:00-11:00): New trends in metallic stenting in pancreato-biliary obstruction
10:30	
11:00	Coffee break (11:00-11:15)
11:30	Session 6 (11:15~12:30): "Cutting edge of endotherapy for pancreatic diseases"
12:00	
12:30	FUJIFILM corporation Luncheon Seminar (12:30-13:30)
13:00	
13:30	Poster & Exhibition round (13:30-14:00) Posters are always put in conference of 2 days.
14:00	Gadelius Medical K.K. sponsored session (14:15-14:45): "Mini-lecture"
14:30	Session 7 (14:30~15:00): Free paper session 2
15:00	Coffee break (15:00-15:10)
15:30	Special session (15:10-16:00): "Asian Academic Activities"
16:00	Special session (16:00-16:50): Lecture from the master 2
16:30	Awarded Ceremony & Closing remarks (16:50~17:00)
17:00	
17:30	
18:00	
18:30	
19:00	
19:30	
20:00	
20:30	
21:00	

MEETING AGENDA OF T-CAP 2016

DATE: June 17 (Fri.) - 18 (Sat.), 2016.

VENUE: ITO INTERNATIONAL RESEARCH CENTER, Bunkyo-ku, Tokyo .

June 17, Friday

Opening remarks (9:00-9:10)

Hiroyuki Isayama
Kazuhiko Koike
Hsiu-Po Wang

Session 1(9:10-10:30): "Current strategy of management of benign biliary stricture"

Moderator: Keiji Hanada, Sandeep Lakhtakia,

Primary sclerosing cholangitis (15min+10min)

Arthur Kaffes

Post LDLT biliary stricture (15min+10min)

Dong-Ki Lee

Endoscopic management of BBS due to chronic pancreatitis ~Multiple plastic vs covered metal~ (15min+10min)

James Lau

Discusser: Shomei Ryozaawa, Hirofumi Kogure, Masaki Kuwatani, Rungsun Rerknimitr,
Do Hyun Park, Majid Almadi

Coffee break (10:30-10:45)

Special session: Lecture from the master 1 (10:45-12:00)

Moderator: Hiroyuki Isayama, Hsiu-Po Wang

Endoscopic management of Bilio-Pancreatic diseases in surgically altered patients (20min+5min)

Mitsuhiro Kida

Clinical practice guideline for post-ERCP pancreatitis (20min+5min)

Tetsuya Mine

Endoscopic management of bile duct stones: watch, cut, dilate, or pierce? (20min+5min)

Naotaka Fujita

COOK JAPAN Incorporated Luncheon Seminar (12:00-13:15)

Moderator: Masayuki Kitano, Tsuyoshi Hamada

What should I do with this pancreatic cyst? (20min+10min)

Peter Draganov

Endoscopic biliary sphincterotomy ~Current perspective~ (20min+10min)

Arthur Kaffes

Poster & Exhibition round (13:15-14:30)

Poster Presenter: Please wait in front of a poster.

Posters are always put in conference of 2 days.

Session 2 (14:30-15:30): Free paper session1 (Each paper: 6min+3min)

Moderator: Masaki Kuwatani, Natsuyo Yamamoto

A novel dynamic imaging of gallbladder tumor vessels with contrast-enhanced harmonic EUS

Mamoru Takenaka

Spyglass direct visualization system versus direct peroral cholangioscopy using by a mulibending ultraslim endoscope as a single-operator peroral cholangioscopy for the managing biliary lesions: A prospective comparative study

Yun Nah Lee

Clinical values of cytodiagnosis using pancreatic juice multiple times via endoscopic nasopancreatic drainage for early diagnosis of pancreatic cancer

Tomoyuki Minami

Eus guided cholecystogastrostomy in acf with acute calculous cholecystitis

Kapil Dev Jamwal

Risk Factors of delayed bleeding after Endoscopic Sphincterotomy

Takehiko Koga

Comparison of treatment outcomes between the use of 10-mm and 12-mm covered self-expandable metallic stents for unresectable malignant biliary obstructions

Tsuyoshi Mukai

Discusser: Tsuyoshi Hayashi, Hiroyuki Isayama, Takayoshi Tsuchiya, Reiko Ashida, Jong Ho Moon, Ryan Ponudurai, Thawee Ratanachu-ek, Wei-Chih Liao, Christopher Khor

MEETING AGENDA OF T-CAP 2016

Session 3 (15:30-17:00): Current strategies in EUS-FNA and interventional EUS

Moderator: Akio Katanuma, Thawee Ratanachu-ek,

New information on EUS guided tissue acquisition (10min+10min)	Christopher Khor
EUS-FNA according to the diseases and location (10min+10min)	Shinpei Doi
Tips & tricks of EUS-BD and EUS-RV (10min+10min)	Vinay Dhir
What is the best route of EUS-BD? (10min+10min)	Kazuo Hara

Discusser: Iruru Maetani, Ichiro Yasuda, Atsushi Irisawa, Reiko Ashida, Sundeep Lakhtakia, Majid Almadi,

Coffee break (17:00-17:15)

Session 4(17:15-18:15): Recent progress in ERCP related procedures

Moderator: Atsushi Irisawa, Dong-Ki Lee

What's New in Peroral Cholangioscopy (10min+5min)	Jong Ho Moon
Prospective randomized study of endoscopic biliary stone extraction using either a basket or a balloon catheter: the Basketball study (10min+5min)	Ichiro Yasuda
Current status of EPLBD in Japan (10min+5min)	Shomei Ryozaawa

Discusser: Takuji Iwashita, Masaki Kuwatani, Kazuo Hara, Tsuyoshi Hamada, Ang Tiing Leong, Peter Draganov, Wei-Chih Liao, Majid Almadi, Vinay Dhir

TaeWoong &CMI Satellite symposium (18:15-19:30):

Moderator: Iruru Maetani, Takuji Iwashita,

Update of interventional EUS in 2016 (20min+10min)	Vinay Dhir
Stenting in malignant biliary obstruction; the incomplete story (20min+10min)	Majid Almadi

Dinner Party (19:30-21:00)

June 18, Saturday

Hitachi,Ltd. Morning seminar: (9:00-10:00)

Moderator: Tsuyoshi Hayashi, Sundeep Lakhtakia,

EUS-guided antegrade techniques (20min+10min)	Takuji Iwashita
EUS-Guided pancreatic interventions (20min+10min)	Takayoshi Tsuchiya

Session 5 (10:00-11:00): New trends in metallic stenting in pancreato-biliary obstruction

Moderator: Shinpei Doi, James Lau

SEMS with an antireflux mechanism (15min+5min)	Tsuyoshi Hamada
Which do you like, side-by-side or stent-in-stent placement? (15min+5min)	Kazumichi Kawakubo
Covered SEMS for pancreatic stricture in both ERCP and EUS (15min+5min)	Do Hyun Park

Discusser: Masayuki Kitano, Akio Katanuma, Kazumichi Kawakubo, Masaki Kuwatani, Peter Draganov, Dong-Ki Lee

Coffee break (11:00-11:15)

Session 6 (11:15-12:30) "Cutting edge of endotherapy for pancreatic diseases"

Moderator: Takayoshi Tsuchiya, Ang Tiing Leong,

Management of Walled-Off Pancreatic Necrosis in the U.S. (15min+10min)	Peter Draganov
EUS-guided fiducial marker placement for treatment of pancreatic cancer (15min+10min)	Reiko Ashida



Recent progress in endoscopic pancreatic tumor ablation therapy (15min+10min)	Dong Wan Seo
Discusser: Natsuyo Yamamoto, Shinpei Doi, Rungsun Rerknimitr, Ryan Ponnudurai, Arthur Kaffes, Majid Almadi	
FUJIFILM Luncheon Seminar (12:30-13:30)	
Moderator: Yousuke Nakai, Rungsun Rerknimitr	
EUS-guided biliary drainage with a dedicated device vs. PTBD after failed ERC (20min+10min)	Do Hyun Park
Evaluation of the short-type double-balloon endoscopy assisted ERCP in patients with altered gastrointestinal anatomy (20min+10min)	Masaaki Shimatani
Poster & Exhibition round (13:30-14:00)	
Posters are always put in conference of 2 days.	
Gadelius Medical K.K. sponsored session "Mini-lecture" (14:00-14:30)	
Moderator: Shomei Ryozaawa	
How to use plastic stent? (20min+5min)	Hiroyuki Isayama
Session 7 (14:30-15:10): Free paper session 2 (Each paper: 6min+3min)	
Moderator: Kazumichi Kawakubo, Wei-Chih Liao	
Comparison of endoscopic sphincterotomy, endoscopic papillary large balloon dilation, and endoscopic sphincterotomy plus large-balloon dilation for choledocholithiasis: A systematic review and network meta-analysis	Yu-Ting Kuo
Efficacy of the 6-mm fully covered self-expandable metallic stent for EUS-guided hepaticogastrostomy: a prospective clinical study	Nozomi Okuno
Feasibility of the Conversion of Percutaneous Cholecystostomy to Internal Transmural Gallbladder Drainage Using Endoscopic Ultrasound-guided Plastic Stents Insertion	Tanyaporn Chantarajanasiri
Electrocautery vs. non-electrocautery dilation catheters in endoscopic ultrasonography-guided pancreatic fluid collection drainage	Katsuya Kitamura
Discusser: Vinay Dhir, Arthur Kaffes, Dong Ki Lee, Majid Almadi, Takuji Iwashita, Hiroyuki Isayama, Tsuyoshi Hamada, Kazuo Hara	
Special session "Asian Academic Activities" (15:10-16:00)	
Moderator: Ichiro Yasuda, Hiroyuki Isayama	
The Asian Pacific Consensus Recommendations on Difficult Biliary Access (20+5 min)	Wei-Chih Liao
Multinational study on endoscopic management of combined biliary and duodenal obstructions (TCAP-1 study) (20+5min)	Tsuyoshi Hamada
Special session (16:00-16:50): Lecture from the master 2	
Moderator: Takao Itoi, Dong Wan Seo	
Endoscopic treatments for the adenoma of the duodenal papilla (20min+5min)	Yoshinori Igarashi
My challenges in pancreatobiliary endoscopy (20min+5min)	Kazuo Inui
Awarded Ceremony & Closing remarks (16:50-17:00)	
Ichiro Yasuda & Thawee Ratanachu-ek	
Best Free Paper Presenter (Selected by Iruru Maetani & Ang Tiing Leong), Best Poster Presenter (Selected by Ichiro Yasuda & Dong Wan Seo), Best Discussor (Selected by Atsushi Irisawa & Christopher Khor)	

INVITED SPEAKER**Vinay Dhir**

(Gastroenterology, Baldota Institute of Digestive Sciences)

CURRICULUM VITAE

Dr Dhir did his advanced endoscopy fellowship at the Academic Medical Centre Amsterdam under in 1994. Currently he is the Director, and Chief of endosonography at the Baldota Institute of Digestive Sciences, Mumbai, India. His principle interests are Interventional hepatobiliary endoscopy including interventional EUS. Dr Dhir has more than 100 original articles and 60 abstracts published in peer reviewed journals. He has written 12 book chapters . Dr Dhir was the first convener of the EUS working group of India set up by SGEI. He is on the steering committee of Asian EUS group. He is the Secretary of Association of Interventional GI Endoscopy of India (AIGE). Over the past decade he has trained more than 100 National and International students in EUS. Recently he has created a 3D printing model for hands on training in EUS-guided biliary drainage.

Tips & tricks of EUS-BD and EUS-RV

Relieving biliary obstruction in patients with obstructive jaundice has been established as an essential part of management of patients, as the immediate biliary drainage not only improves the quality of life, it also is cost saving. It becomes imperative in patients with incessant itching and/or cholangitis. The procedure of choice to attain this objective is ERCP with stent placement. Other alternatives such as PTBD or surgery are utilized in cases where ERCP fails or cannot be done to provide the necessary biliary drainage. Recently, EUS-BD procedure has become a serious contender in the armamentarium of procedure choices when ERCP fails or is not an option to provide the needed biliary drainage. There are many advantages of EUS-BD. It can be done as a single session procedure when ERCP is not successful or possible. Also, the procedure can be done safely as the surrounding blood vessels and organs can be avoided while performing it. When compared to other methods that provide biliary drainage (ERCP, PTBD and Surgery), EUS-BD has a major advantage in that it provides multiple potential access points to drain the biliary tree. The site of access can be tailored to the particular patient depending upon the level of biliary obstruction and the prevalent anatomy of the GI tract. Since the stent can be placed upstream of a malignant obstruction, the problems of stent occlusion from tumor in growth can be avoided. Due to the relatively fewer number of patients requiring this procedure, so far the available data on EUS-BD is gleaned from retrospective and multi-center studies. There is also no good comparative data available about which procedure is best for providing the needed biliary drainage. Prospective, randomized, controlled trials are needed to provide a lot of answers to several burning questions regarding what is the procedure of choice for a particular clinical situation.



Peter Draganov

(University of Florida, Division of Gastroenterology Hepatology and Nutrition)

CURRICULUM VITAE

Dr. Peter Draganov is professor of Medicine and Director of advanced therapeutic endoscopy at the Division of Gastroenterology, Hepatology and Nutrition at the University of Florida in Gainesville, Florida, USA. He completed medical school in Bulgaria and then trained in Medicine and Gastroenterology including advanced therapeutic endoscopy at the Medical University of South Carolina (MUSC) in Charleston, South Carolina.

Dr. Draganov's clinical interest is in advanced therapeutic endoscopy including endoscopic ultrasound (EUS), endoscopic retrograde cholangiopancreatography (ERCP), cholangioscopy, endoscopic mucosal resection (EMR), endoscopic submucosal dissection (ESD), peroral endoscopic myotomy (POEM) and deep small bowel enteroscopy. His research interests are in the areas of outcomes research, new technology evaluation and training in advanced endoscopic procedures.

What should I do with this pancreatic cyst?

Pancreatic cysts are common clinical problem. Multiple tests for evaluation are available which makes diagnosis and clinical decision making complex. Recently, the American Gastroenterological Association (AGA) published new guidelines for the management of asymptomatic pancreatic cysts. The guidelines provide an evidence-based perspective on this complex problem. There are some substantial differences compared with the previous expert-based guidelines and we will discuss the changes in detail. Importantly, we will relate the new guidelines to everyday practice providing a practical approach to a patient with pancreatic cyst.

Management of Walled-Off Pancreatic Necrosis in the U.S.

A recent 2016 ASGE guideline defines the role of endoscopy in the diagnosis and treatment of inflammatory pancreatic fluid collection. The key points of the new guideline include:

- » Before any endoscopic drainage is performed, exclusion of cystic pancreatic neoplasm and pseudo-aneurism should be done.
- » Endoscopic intervention should be delayed until maturation of the pancreatic fluid collection has occurred.
- » Only symptomatic pancreatic fluid collections (PFC) should be drained.
- » Rapidly enlarging pancreatic fluid collections (PFCs) should also be considered for drainage.
- » Drainage is recommended in all infected PFCs in patients who fail to improve with conservative management alone.
- » There is no need for routine percutaneous FNA of PFC to diagnose infected necrosis.
- » Endoscopic drainage should be considered the initial therapy before surgical drainage of a pancreatic pseudocyst.
- » EUS should be used for transmural drainage of PFC in the absence of luminal bulge or when portal hypertension is suspected.
- » Endoscopic transmural or percutaneous drainage of walled-off necrosis (WON) should be considered first before transmural or surgical necrosectomy.
- » Endoscopic drainage of PFC should be performed only with the availability of surgical and interventional radiology support.
- » CO₂ should be used when performing transmural endoscopic drainage procedures.

INVITED SPEAKER**DongKi Lee**

(Gangnam Severance Hospital Yonsei University, Internal Medicine)

CURRICULUM VITAE

Dr. DongKi Lee is a founding member, former Secretary-General and president-elect of the Society of Gastrointestinal Endoscopy (SGI), an international organization of medical professionals dedicated in improving public health in gastrointestinal interventions. He is also a member of the International Editorial Board of Gastrointestinal Endoscopy. He was nominated as the best reviewer several times from this journal. He has been closely involved in many clinical studies for therapeutic ERCP, and has innovated and introduced several unique methodologies to the pancreatico-biliary field. He is currently conducting studies in developing a drug-eluting biliary stent, the effects of omega-3 on the bile and liver, as well as various therapeutic ERCP treatments, such as EPLBD, MCA, and management of benign and malignant biliary stricture.

Post LDLT biliary stricture

The incidence of biliary strictures following deceased-donor liver transplantation has been reduced over the years, while right-lobe living donor liver transplantation (LDLT) still shows a high incidence of anastomotic strictures. The anastomotic stricture after LDLT is basically a high level benign stricture (BBS) with frequent recurrence after interventional treatment.

BBS can be successfully treated with aggressive endoscopic treatment, which increases the number of inserted plastic stents with repeated ERCP. However, this method cannot be easily applied to BBS after LDLT for various reasons. Currently, removable full-covered self-expandable metal stent (fc-SEMS) has been used for the treatment of BBS. Short fc-SEMS with central waist (Niti-S Kaffes stent; Taewoong) can effectively treat high level BBS. The central waist prevents the stent migration. The stent sits entirely within the bile duct with a long removal string that rests in the duodenum. We applied this stent in a patient after LDLT with a difficult anastomotic stricture.

Twenty-seven patients with anastomotic BBS following LDLT which could not be resolved with conventional endoscopic or percutaneous procedures were included. The stent indwelled for three months. The mean period from operation to the strictures was 21.1 months, and the mean duration of the stricture was 33.7 months. The stricture recurrence was observed in 6 of 27 (22.2%) patients with mean follow-up 10 months. Overall, anastomotic stricture was resolved in 21 of 27 patients.

Kaffes stent also can be applied as a first treatment modality for the treatment of BBS after LT. Endoscopic insertion of the fc-SEMS for the maintenance of the recanalized fistulous tract after magnet anastomosis compression can keep patients from the distress of a prolonged percutaneous drainage.

The stent migration rate was extremely low. In most of the cases, intraluminal sludge formation occurred, and although the amount varied from case to case, it prevented a long-term indwelling of the stent, usually less than four months. The optimal total SEMS indwelling time should be decided with further clinical research.

The newly designed short fc-SEMS with a removable string is an effective treatment option for high level anastomotic strictures that develop after LDLT that cannot be managed by conventional procedures..



Do Hyun Park

(Associate Professor Division of Gastroenterology, Department of Internal Medicine, University of Ulsan College of Medicine, Asan Medical Center)

CURRICULUM VITAE

He is the associate professor of Division of Gastroenterology, Department of Internal Medicine, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea. He was a visiting clinical instructor of Medicine, University of California, Irvine in 2010-2011. His main research interests are interventional EUS, ERCP, photodynamic therapy, and pathogenesis of autoimmune pancreatitis. Among them, he is an active clinical researcher on EUS-guided biliary drainage. His more than 120 peer-reviewed publications include NEJM, Gastroenterology, Gut, American Journal of Gastroenterology, Gastrointestinal Endoscopy, Clinical Gastroenterology and Hepatology, and Endoscopy. He is currently conducting studies in developing the dedicated device for EUS-guided biliary drainage. He is a member of the International Editorial Board of Gastrointestinal Endoscopy. He has received ASGE Don-Wilson award on 2010 and consecutive 5-year Gastrointestinal Endoscopy (GIE) reviewer award (2011-2015).

Covered SEMS for pancreatic stricture in both ERCP and EUS

Painful chronic pancreatitis with main pancreatic ductal strictures is usually managed with endotherapy with a plastic stent. Fully covered self-expandable metal stent (FCSEMS) placement has recently been tried in the management of refractory pancreatic-duct strictures associated with advanced chronic pancreatitis.^{1,2} Temporary 2 or 3-month placement of FCSEMSs was effective in resolving pancreatic-duct strictures in chronic pancreatitis, with an acceptable morbidity profile. The major limitation of FCSEMSs was frequent migration.^{1,2} To prevent stent migration, an FCSEMS with antimigration system has been introduced.³ However, long-term results on FCSEMS with antimigration for painful obstructive pancreatitis are lacking.

Recently, EUS-guided pancreatic duct drainage (EUS-PD) has been used for patients in whom endoscopic retrograde pancreatography (ERP) has failed. Stent-related adverse events such as stent migrations, failures in stent placement, or pancreatic fluid leakages have been of concern in transmural plastic stenting procedures. To evaluate the feasibility and safety of EUS-PD with an FCSEMS for patients with obstructive pancreatitis who failed ERP, we conducted early and mid-term outcome study. In this study,⁴ EUS-PD was successful in all 25 patients (technical success rate, 100%), and symptoms improved in all patients (clinical success rate, 100%). EUS-guided pancreaticogastrostomy (n = 23), pancreaticoduodenostomy (n = 1), and pancreaticojejunostomy (n = 1) were performed. Pain scores improved significantly after FCSEMS placement (P = .001). Early mild grade adverse events occurred in 5 patients (20%), 4 with self-limited abdominal pain and 1 with minor bleeding. No other adverse events related to FCSEMS, including stent migration, stent clogging, pancreatic sepsis, and stent-induced ductal stricture, were observed during follow-up periods. Mean stent patency duration was 126.9 days during mean follow-up periods (221.1 days). Based on this study,⁴ EUS-PD with an FCSEMS may be technically feasible and relatively safe for patients who fail conventional ERP. Further randomized trials comparing EUS-PD with long-term FCSEMS and plastic stents for patients with painful obstructive pancreatitis after failed ERCP should be encouraged. In this lecture, efficacy and future direction of FCSEMS for painful obstructive pancreatitis in both ERCP and EUS will be discussed.

References

1. Park do H, Kim MH, Moon SH, et al. Feasibility and safety of placement of a newly designed, fully covered self-expandable metal stent for refractory benign pancreatic ductal strictures: a pilot study (with video). *Gastrointest Endosc* 2008;68:1182-9.

INVITED SPEAKER

2. Moon SH, Kim MH, Park do H, et al. Modified fully covered self-expandable metal stents with antimigration features for benign pancreatic-duct strictures in advanced chronic pancreatitis, with a focus on the safety profile and reducing migration. *Gastrointest Endosc* 2010;72:86-91.
3. Park do H, Lee SS, Lee TH, et al. Anchoring flap versus flared end, fully covered self-expandable metal stents to prevent migration in patients with benign biliary strictures: a multicenter, prospective, comparative pilot study (with videos). *Gastrointest Endosc* 2011;73:64-70.
4. Oh D, Park do H, Cho MK, et al. Feasibility and safety of a fully covered self-expandable metal stent with antimigration properties for EUS-guided pancreatic duct drainage: early and midterm outcomes (with video). *Gastrointest Endosc* 2016;83:366-373 e2.

EUS-guided biliary drainage with a dedicated device vs. PTBD after failed ERC

Although percutaneous transhepatic biliary drainage (PTBD) is the standard method for draining a malignant biliary obstruction after failed endoscopic retrograde cholangiopancreatographies (ERCPs), use of endoscopic ultrasound-guided transmural biliary drainage (EUS-BD) is increasing.^{1,2} We performed a multicenter, open-label, randomized trial to compare EUS-BD vs PTBD for malignant distal biliary obstruction after a failed ERCP.

Patients with unresectable malignant distal biliary obstructions and failed primary ERCP, caused by inaccessible papilla, were assigned to groups that underwent EUS-BD with an all-in-one device for direct deployment of a partially covered metal stent (without further fistula tract dilation, n = 34) or PTBD (n = 32). The procedures were performed at 4 tertiary academic referral centers in South Korea from October 2014 through March 2015; patients were followed up through June 2015. The primary end point was technical success, which was calculated using a noninferiority model. Secondary end points were functional success, procedure-related adverse events, rate of unscheduled re-intervention, and quality of life (QOL).

The rates of primary technical success were 94.1% (32 of 34) in the EUS-BD group and 96.9% (31 of 32) in the PTBD group (1-sided 97.5% confidence interval lower limit, -12.7%; P = .008 for a noninferiority margin of 15%). The rates of functional success were 87.5% (28 of 32) in the EUS-BD group and 87.1% (27 of 31) in the PTBD group (P = 1.00). The proportions of procedure-related adverse events were 8.8% in the EUS-BD group vs 31.2% in the PTBD group (P = .022); the mean frequency of unscheduled re-intervention was 0.34 in the EUS-BD group vs 0.93 in the PTBD group (P = .02); were higher in the PTBD group. The QOL was similar between groups.

EUS-BD and PTBD had similar levels of efficacy in patients with unresectable malignant distal biliary obstruction and inaccessible papilla based on rates of technical and functional success and QOL. However, EUS-BD produced fewer procedure-related adverse events and unscheduled re-interventions.³ In this lecture, role of a dedicated device for EUS-BD will be discussed.⁴

References

1. Park do H, Jang JW, Lee SS, et al. EUS-guided biliary drainage with transluminal stenting after failed ERCP: predictors of adverse events and long-term results. *Gastrointest Endosc* 2011;74:1276-84.
2. Park do H, Jeong SU, Lee BU, et al. Prospective evaluation of a treatment algorithm with enhanced guidewire manipulation protocol for EUS-guided biliary drainage after failed ERCP (with video). *Gastrointest Endosc* 2013;78:91-101.
3. Lee TH, Choi JH, Park DH, et al. Similar Efficacies of Endoscopic Ultrasound-Guided Transmural and Percutaneous Drainage for Malignant Distal Biliary Obstruction. *Clin Gastroenterol Hepatol* 2016. in press
4. Park do H, Lee TH, Paik WH, et al. Feasibility and safety of a novel dedicated device for one-step EUS-guided biliary drainage: A randomized trial. *J Gastroenterol Hepatol* 2015;30:1461-6.



Arthur Kaffes

(Royal Prince Alfred Hospital, Australia)

CURRICULUM VITAE

Dr Arthur J Kaffes BSc (med) MBBS FRACP is a Gastroenterologist and therapeutic endoscopist at the Royal Prince Alfred and Prince of Wales Hospitals in Sydney. After completing gastroenterology training in Sydney Australia he underwent 2 years of therapeutic endoscopy training at Westmead Hospital Sydney and then completed an endoscopy fellowship with Dr DN Reddy in Hyderabad India. Dr Kaffes has a keen interest in 3 areas of therapeutic endoscopy including pancreatico-biliary endoscopy, small bowel balloon enteroscopy and advanced colonoscopy.

Primary sclerosing cholangitis

Primary sclerosing cholangitis (PSC) is a chronic progressive disorder of unknown aetiology that is characterized by inflammation, fibrosis, and stricturing of medium size and large ducts in the intrahepatic and extrahepatic biliary tree. This idiopathic condition is rare in Asia but often seen in the west where inflammatory bowel disease has a higher prevalence and can be difficult to distinguish in some cases of autoimmune cholangiopathy. The diagnosis can be difficult to make but cholangiography remains the gold standard. ERCP remains the definitive method of diagnosis however MRCP has often been used in suspected cases. A diagnosis is made with characteristic multifocal stricturing and dilation of intrahepatic and/or extrahepatic bile ducts on cholangiography.

In PSC, 70 percent of patients with PSC are men, the mean age at diagnosis of 40 years, 73-90% of pt's with PSC have ulcerative colitis. Conversely, 5% of patients with UC have PSC and 3.5% of patients with Crohn's disease have PSC. PSC was more prevalent in patients with pancolitis than in those with distal colitis (5.5 versus 0.5 percent).

Complications include End stage liver disease, portal hypertension, cholestasis-associated problems, dominant biliary stricture, cholangiocarcinoma and Colon cancer (in patients with concomitant ulcerative colitis).

The endoscopists main focus is on dominant strictures which occur in about 20 percent and is defined as a discrete narrowing within the extrahepatic biliary tree. It is suspected with worsening of symptoms such as pain, pruritus and cholangitis. The main issue is excluding Cholangiocarcinoma. Overall, there is a 10 to 15% lifetime risk of developing cholangiocarcinoma and as high as 37% within the 1st year of diagnosis with an annual incidence after the 1st year – 1.5% / year. It is the primary cause of death in majority. The diagnosis is difficult with 10%- 20% of patients with PSC undergoing liver transplantation had an unsuspected cholangiocarcinoma.

Endoscopic biliary sphincterotomy ~Current perspective~

Performing biliary sphincterotomy requires a clear understanding of the indications, complications and the anatomy. Biliary sphincterotomy has significant associated risks that may lead to death, so preventing these complications whilst providing optimal patient treatment makes for a delicate balance. The most complicating factors are indeed variations in anatomy and diseased states that we encounter in our patients. These situations require us to adapt and utilise various strategies to optimise treatment and to minimise our complications.

INVITED SPEAKER**Majid Abdulrahman Almadi**

(King Khalid University Hospital King Saud University Medical City King Saud University, Division of Gastroenterology Department of Medicine)

CURRICULUM VITAE

Dr. Almadi obtained an MBBS degree from King Saud University, Riyadh in 2002 and completed his training in internal medicine and gastroenterology from McGill University, Montreal, Canada. He also completed two years of training in therapeutic endoscopy and EUS at McGill and obtained a Masters Degree in Clinical Epidemiology and a Clinical Investigator program from the same university. Currently he is an Assistant Professor of Medicine in King Saud University and an adjunct professor at McGill University. He is the program director for the therapeutic endoscopy program and the endoscopy unit director at King Saud Medical City and then regional program director for the gastroenterology program in the central region. Dr. Almadi is the current president of the Saudi Gastroenterology Association.

Stenting in malignant biliary obstruction; the incomplete story

Not uncommonly malignant biliary obstruction is diagnosed at an advanced stage when management is mainly palliative. The median survival of all patients with biliary tract cancers is 4.8 months with 1-year and 5-year survival rates of 31% and 10%, respectively. Given this poor prognosis, in a significant proportion of these patients biliary drainage is required because a palliative approach is indicated.

The approach to malignant biliary drainage has evolved significantly over the past decade with improvements in endoscopic technologies and drainage devices.

Although there is an abundance in the literature with regards to the best approach to these patients there still remains some areas that deserve further focus especially with the change in patient survival with newer chemotherapy regimens and the strategy differs when assessing distal versus proximal sites of obstruction.

Regardless, the choice of optimal stent remains unclear, even though more recent data favor SEMS for distal tumors. In hilar obstruction, a percutaneous approach may be more effective, especially if endoscopic expertise is lacking. As a rule, preprocedural imaging should identify the optimal drainage strategy, with an attempt at draining all opacified segments at the time of the procedure. In all cases, an integrated multidisciplinary approach should help determine the best approach based on local expertise and technological availabilities.

Majid A Almadi, MBBS, MSc (Clinical Epidemiology), FRCPC

Assistant Professor of Medicine

President of the Saudi Gastroenterology Association

Therapeutic Endoscopy Program Director.

Division of Gastroenterology, King Khalid University Hospital, King Saud University, Riyadh, Saudi Arabia

Adjunct Professor, The Montreal General Hospital, McGill University, Montreal, Canada.



Wei-Chi Liao

(National Taiwan University Hospital, Internal Medicine)

CURRICULUM VITAE

Dr. Wei-Chih Liao is clinical associate professor of Department of Internal Medicine of National Taiwan University Hospital in Taipei, Taiwan. He received MD degree from College of Medicine, National Taiwan University, and PhD degree in epidemiology from College of Public Health, National Taiwan University.

Dr. Liao's main research interests focus on interventional endoscopy and clinical and epidemiologic research for pancreato-biliary diseases, and has publications in international journals in these fields. Dr. Liao also actively engages in activities of related societies and journals. He is an active member of ASGE, and has been recognized by Gastrointestinal Endoscopy (GIE) as Outstanding Reviewer for 3 consecutive years.

The Asian Pacific Consensus Recommendations on Difficult Biliary Access

Wei-Chih Liao, Phonthep Angsuwatcharakon, Hiroyuki Isayama, Rungsun Rerknimitr, Hsiu-Po Wang, Vinay Dhir, Benedict Devereaux, Ryan Ponnudurai, Sundeep Lakhtakia, Christopher J L Khor, Dong-Ki Lee, Thawee Ratanachu-ek, Ichiro Yasuda¹¹, Federick Dy, Shiaw-Hooi Ho, Dadang Makmun, Huei-Lung Liang

Biliary access is a pre-requisite for further endoscopic biliary therapy. The term difficult biliary access is applied to failure of selective biliary cannulation using standard techniques during ERC. The technique of endoscopic biliary access during ERC may be divided into 2 steps, an endoscopic approach to the papillary orifice followed by a cannulation of biliary system. Difficult access can be caused by problems at any of these steps. Difficult endoscope intubation is obviously experienced in the presence of duodenal obstruction, and surgically altered anatomy but it can also occur in normal anatomy. The risk of complications seems to be higher in patients with difficult biliary access. Currently, a variety of techniques are utilized for difficult biliary access. These include advanced cannulation techniques utilizing precut or double guide wire, specialized endoscope systems like the echoendoscopes or device assisted enteroscope, or non-endoscopic method like percutaneous approach. There is no consensus on the appropriate management of difficult biliary access with these techniques. The Digestive Endoscopy Society of Taiwan (DEST) together with Tokyo Conference of Asian Pancreato-biliary Interventional Endoscopist (T-CAP) and the Thai Association for Gastrointestinal Endoscopy (TAGE) invited expert endoscopists and interventional radiologist from Asia-Pacific region including Australia, Hong Kong (China), India, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand to develop consensus statements by modified Delphi method. Thirteen consensus statements are developed and reported with quality of evidence, recommendation, and result of voting of recommendation. These consensus statements are expected to provide a framework for the endoscopists to cope with difficult biliary access.

INVITED SPEAKER**Tetsuya Mine**

(Tokai University School of Medicine, Department of Gastroenterology and Hepatology)

CURRICULUM VITAE

Education; 1978 M.D., Graduate University of Tokyo School of Medicine 1989 Ph.D. (Doctor of Medical Science) University of Tokyo School of Medicine Postdoctoral; 1978-Research Fellow in Gastroenterology and Hepatology Professional Training and Employment 1982-Instructor, Division of Gastroenterology and Hepatology Department of Internal Medicine, University of Tokyo School of Medicine 1991-Assistant Professor, Medical Institute of Tokyo University 1997-Assistant professor, Department of Internal Medicine, University of Tokyo School of Medicine 2001-Professor and Chairman, Department of Internal Medicine, University of Tokai School of Medicine 2004-Director of Gastroenterological Center, Professor and Chairman, Division of Gastroenterology and Hepatology,

Clinical practice guideline for post-ERCP pancreatitis

Tetsuya Mine, Ryukichi Akashi, Tetsuhide Ito, Atsushi Kanno, Mitsuhiro Kida, Keiji Hanada, Taketo Yamaguchi, Toshio Morizane, Yoshiaki Kawaguchi, Hiroyuki Miyagawa, Yoshifumi Takeyama, Toshihiko Mayumi, Tooru Shimosegawa

Target patients

The population to whom this guideline is meant to apply is adults of both sexes who receive ERCP because of various diseases or morbidities.

Target users

Gastroenterologists are the target users of this clinical practice guideline. General practitioners or general citizens are not supposed to use this guideline. We expect that gastroenterologists certified by the Japanese Society of Gastroenterology or the Japan Gastroenterological Endoscopy Society. Physicians with expert knowledge and skills comparable to these certified gastroenterologists may use this guideline.

The guideline committee decided to include wide clinical issues such as etiological information, techniques of ERCP, the diagnosis, treatments and monitoring of post-ERCP pancreatitis in this guideline. Clinical questions were formulated when applicable, especially about interventions to post-ERCP pancreatitis. Recommendations to these clinical questions were made after systematic reviews.

The chairman of the guideline development committee was appointed by the board of the Japan Pancreas Society. The chairman asked chief doctors of sections where the yearly frequency of ERCP implementation was high in hospitals all over Japan to join as a member. The guideline development committee consisted of experts in this field and an expert of guideline development methodology, but did not include comedical healthcare workers or the representatives of patients or general citizens because of nature of the disease.

Key clinical issues of diagnosis, treatment and others about post-ERCP pancreatitis were listed and approved by the all members of the committee. Each member undertook a few key clinical issues and formulated clinical questions. These clinical questions were approved by all members of the committee.



PubMed (MEDLINE) and Ichushi-web (a database of Japanese medical literature) were used as databases. Medical literature from 1985 were searched for each clinical question. Literature search was performed by members of the Japan Medical Library Association who suggested search queries and presented with search results in collaboration with the committee members. Primary literature selections were done on titles and abstracts, and secondary literature selections were done by committee members by reading whole texts.

Systematic reviews were done for each clinical question based on a literature set collected for each clinical question. Qualitative systematic reviews were done evaluating the risk of biases and indirectness of each study .

The domains of risk of bias were selection bias, performance bias, detection bias, attrition bias, and other biases. As for randomized controlled trials, random allocation, concealment, blinding of healthcare provider and patients, blinding of outcome measurers, incomplete outcome data, intention-to-treat analysis, early stopping of trial, selective outcome reporting, and other items were assessed. Body of evidence was evaluated based on overall risk of biases, overall indirectness, inconsistencies across studies, reporting biases (publication biases), and when possible imprecision of effect measures obtained from a quantitative systematic review (meta-analysis). Strength of the body of evidence was categorized into four levels, A: strong, B: moderate, C: weak, and D: very weak. Strength reflects confidence in effectiveness and shows the strength to support related recommendation. Grading of recommendations were determined as strong or weak (1 or 2), based on evaluating benefits and harms, burdens which a patient would receive. Recommendation grades were determined by unanimous agreement of the committee members.

This guideline of post-ERCP pancreatitis is consist of 10 clinical questions and associated with explanations. In this session, I would like to present these clinical questions with explanations.

INVITED SPEAKER**Kazuo Inui**

(Professor Department of Gastroenterology, Second Teaching Hospital, Fujita Health University)

CURRICULUM VITAE

I graduated from Nagoya University in 1979. After acquisition of Ph.D. degree at Nagoya University in 1986, I am working at the present institution, Second Teaching Hospital, Fujita Health University. I became a professor of Gastroenterology in 2004, and a President of Japan Biliary Association in 2010. I am a member of lots of medical societies including the Japanese Society of Gastroenterology (JSGE), Japan Gastroenterological Endoscopy Society (JSGE), American Gastroenterological Association (AGA), American Society of Gastrointestinal Endoscopy (ASGE), and the European Society of Gastrointestinal Endoscopy (ESGE). My main interested field is clinical study of diagnostic modalities and non-surgical treatments, especially of pancreatobiliary diseases.

My challenges in pancreatobiliary endoscopy

I graduated from Nagoya University in 1979. Since 1989, I am working at the present institution. I will talk about my experience of pancreatobiliary endoscopy in these 37 years. Two years after graduation, I was taught procedures of endoscopic retrograde cholangiopancreatography (ERCP) and percutaneous transhepatic cholangioscopy (PTCS) by Prof. Nimura. I performed endoscopic pancreatic sphincterotomy for a patient with non-calcified pancreatolithiasis and submitted to Japanese Journal of Gastroenterological Endoscopy in 1983. I performed percutaneous transhepatic cholecystoscopy (PTCCS) for patients with gallstones and/or gallbladder adenocarcinoma since 1982, and submitted to the American Journal of Gastroenterology in 1988. I challenged a lot of procedures in pancreatobiliary field at the Second Department of Nagoya University from 1984 to 1989, and at the Second Teaching Hospital, Fujita Health University from 1989 to now under the instruction of Prof. Nakazawa, including endoscopic ultrasonography (EUS), intraductal ultrasonography (IDUS), three-dimensional intraductal ultrasonography (3-IDUS), endoscopic magnetic resonance (MR), etc. Also I will report the recent results of endoscopic treatment of pancreatolithiasis.



Naotaka Fujita

(Miyagi Medical Check-up Plaza)

CURRICULUM VITAE

Professor Naotaka Fujita graduated from Tohoku University School of Medicine in 1979.

He has devoted his career to gastroenterology, especially bilio-pancreatic endoscopy. He was awarded Ph.D. for a thesis entitled "Evaluation of the periampullary region by endoscopic ultrasonography (EUS)-Efficacy of EUS in the diagnosis of abnormal arrangement of the pancreatobiliary ductal system."

Professor Fujita has been an important member of JGES working as a member of Board of Directors and Editor-in-Chief of Gastroenterological Endoscopy, the official journal of JGES, for many years.

He has vigorously published many papers on diagnostic imaging and interventional endoscopy for bilio-pancreatic disorders. He conducted and successfully accomplished a multicenter, prospective, randomized controlled trial (RCT) on the comparison of endoscopic sphincterotomy and endoscopic papillary balloon dilation, which was the first RCT from Japan in this field.

Endoscopic management of bile duct stones: watch, cut, dilate, or pierce?

Bile duct stones (BDS) are the oldest target for bilio-pancreatic endoscopists to treat. In 1974, endoscopic sphincterotomy (EST) was first reported in three different languages, in English by Professor Kawai, in German by Professor Classen, and in Japanese by Professor Soma. Nowadays, EST followed by stone extraction with a basket/balloon is an established method and essentially the treatment of choice for BDS. In the early 1980s, endoscopic papillary balloon dilation (EPBD) was developed expecting preservation of the ampullary sphincter function as well as simplification of endoscopic technique. However, EPBD turned out to entail a crucial drawback; high incidence of postprocedure pancreatitis. Recently, the technique has been refined as endoscopic papillary large balloon dilation (EPLBD). Development of EPLBD has brought us new knowledge concerning the pathogenesis of post-EPBD pancreatitis, that is, it has been clarified that repetitive passage of the papilla with devices plays a major role in the development of post-EPBD pancreatitis while occlusion of the pancreatic outlet has little to influence on its development.

As BDS is the major cause of acute cholangitis and acute cholangitis of all grades should be treated due to its risk of sudden deterioration, endoscopic intervention even for incidentally-found BDS is accepted. When a patient's condition is so fragile due, for example, to acute obstructive suppurative cholangitis, establishment of biliary drainage can be a tentative goal.

For difficult stones, EPLBD, laser/electrohydraulic lithotripsy under peroral cholangioscopic guidance, and/or extracorporeal shockwave lithotripsy can be applied. Percutaneous transhepatic cholangioscopy is another option for selected cases. Recently, reports on the treatment of BDS with interventional EUS have been published. Through the fistula created from the alimentary tract to the biliary tree under EUS guidance, antegrade evacuation of BDS via the papilla or retrieval of stone fragments is feasible.

To achieve the best treatment results in each case of BDS, endoscopists should make continuous efforts on acquiring expertise in these armamentaria.

INVITED SPEAKER**Mitsuhiro Kida**

(Department of Gastroenterology, Kitasato University)

CURRICULUM VITAE

Dr. KIDA is the professor of department of gastroenterology and director of endoscopy center, which is one of the biggest endoscopy center in Japan, at the Kitasato University in Sagamihara, and the director of gastroenterology department of Kitasato medical center in Kitamoto.

He graduated from Kitasato University in 1981. He also went to abroad to study therapeutic endoscopy with professor N. Soehendra of Hamburg university in 1993-1994, and had taught "Japanese-styled endoscopy" as a guest lecturer at Munich technical university hospital in 1999 with professor M. Classen's invitation. His current research activities include studies of early diagnosis of biliopancreas tumor, endoscopic therapy including EUS-guided FNA and ERCP

such as biliary stenting etc, ERCP with enteroscopy in patients with surgically altered anatomy, and molecular analysis of biliary and pancreatic samples.

Endoscopic management of Bilio-Pancreatic diseases in surgically altered patients

Endoscopic retrograde cholangiopancreatography (ERCP) remains challenging in patients who have undergone surgical reconstruction of the intestine.

In 2001, double-balloon enteroscope (DBE) was reported by Yamamoto et al to be an effective procedure for the diagnosis and treatment of small intestinal lesions. In 2005, DBE-assisted ERCP was first successfully by Haruta et al used to treat a late anastomotic stricture in a patient who undergone biliary reconstruction by R-Y choledochojejunostomy after liver transplantation. After that, several studies with long enteroscope have reported that balloon enteroscope-assisted ERCP (BEA-ERCP) is a safe and effective procedure with about 75 % of reaching the blind end. However long type enteroscope allows us to use limited number of ERCP devices because of its length 200 cm. Then short type double balloon enteroscope (DBE) has been developed by Fujifilm Co., furthermore Olympus Co. introduce the prototype of short single balloon enteroscope (SBE) with bigger channel 3.2 mm in diameter. Using short type SBE, we can diagnose and treat biliopancreatic diseases with about 90 % of reaching the blind end, 90 % diagnostic success rate, and 96 % therapeutic success rate, because short type SBE allows us to use most of ERCP devices, even with guide-wire equipment. And complication rate is also rare 3% in pancreatitis, 1.5 % in perforation, etc. In general, BEA-ERCP seems to be taken long time, because it is sometimes difficult to choose right route to the papilla or choledochal or pancreatic anastomosis. In order to choose right route, several techniques such as intraluminal injection of indigo carmine by Yano et al and CO2 inflation guidance by Iwai et al have been reported. Furthermore PTBD rendezvous technique and improvement of enteroscope such as passive vending function etc. introduce to shorten the reaching blind end time (10-21 min), although there are some learning effect too. The rate of reaching blind end with short type SBE is 94 % (126/134) in R-Y gastrectomy, 72 % (39/54) in R-Y choledochojejunostomy, 96 % (71/74), 96 % (71.74) in Child/Whipple's resection, and 97 % (29/30) in B- gastrectomy, respectively. Using long type SBE, we could reach blind end in 94% (15/16) cases which could not be reached by short type SBE and were mainly cases of R-Y Choledochojejunostomy. Concerning about therapeutic procedures, we have sometimes employed electrocautery in case of tight stricture of anastomosis such as hepaticojejunostomy if guide-wire passed and EUS-BD with forward-viewing echoendoscope was performed in case of non-guide-wire passed. In cases of large bile duct stone, we have made



EPLBD and treated by EHL after inserting SBE (direct cholangioscopy) into the bile duct. Finally remaining difficult cases, which we could not treat by SBE because of un-reaching blind end, were treated by EUS-HGS route. Anyway I would like to share our experience & knowledge at the T-Cap.

The advent of balloon enteroscopy allowed a scope to relatively easily reach the blind end (the papilla of Vater or bilioenteric or pancreatoenteric anastomosis). Subsequently, dramatic progress was made in procedures for ERCP in patients with altered gastrointestinal anatomy, and many studies have reported good outcomes with balloon-enteroscopy-assisted ERCP (BEA-ERCP)[7-24] (Table 1). Recently, short-type DBE (model EI530B, Fujifilm, Osaka, Japan) and single-balloon enteroscopes (SBE; model SIF-Y0004, SIF-Y0004-V01, Olympus Medical Systems, Tokyo, Japan) have been developed and used to perform ERCP in patients with surgically altered gastrointestinal anatomy[7-14,21-23,25]. Between January 1, 2012 and December 31, 2012, a total of 7488 sessions of ERCP were performed in 11 high-volume centers in Japan; 490 (6.1%) of these sessions were performed in patients who had undergone intestinal reconstruction surgery[26]. Although the demand is increasing, BEA-ERCP still requires high expertise-level techniques and is far from a routinely performed procedure. In this article, we discuss the current status of BEA-ERCP in patients with surgically altered gastrointestinal anatomy.

Recently, many studies have reported that balloon enteroscopy-assisted ERCP (BEA-ERCP) is a safe and effective procedure. However, further improvements in outcomes and the development of simplified procedures are required. Percutaneous treatment, Laparoscopy-assisted ERCP, endoscopic ultrasound-guided antegrade intervention, and open surgery are effective treatments. However, treatment should be noninvasive, effective, and safe. We believe that these procedures should be performed only in difficult-to-treat patients because of many potential complications. BEA-ERCP still requires high expertise-level techniques and is far from a routinely performed procedure. Various techniques have been proposed to facilitate scope insertion (Insertion with percutaneous transhepatic biliary drainage (PTBD) rendezvous technique, Short type single-balloon enteroscopes with passive bending section, Intraluminal injection of indigo carmine, CO₂ inflation guidance), cannulation (PTBD or percutaneous transgallbladder drainage rendezvous technique, Dilation using screw drill, Rendezvous technique combining DBE with a cholangioscope, endoscopic ultrasound-guided rendezvous technique), and treatment (Overtube-assisted technique, Short type balloon enteroscopes) during BEA-ERCP. The use of these techniques may allow treatment to be performed by BEA-ERCP in many patients. A standard procedure for ERCP yet to be established for patients with a reconstructed intestine. At present, BEA-ERCP is considered the safest and most effective procedure and is therefore likely to be recommended as firstline treatment. In this article, we discuss the current status of BEA-ERCP in patients with surgically altered gastrointestinal anatomy.

Key words: Balloon enteroscopy; Endoscopic retrograde cholangiopancreatography; Altered gastrointestinal anatomy; Balloon-enteroscopy-assisted endoscopic

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INVITED SPEAKER

T and Koizumi W contributed critical revision of the manuscript for important intellectual content. Conflict-of-interest: no conflict of interest. Open-Access: This article is an open-access article which was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution non Commercial (CC BY-nc 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/> Correspondence to: Hiroshi Yamauchi, MD, Department of Gastroenterology, Kitasato University Hospital, 1-15-1 Kitasato, Minami-ku, Sagamihara, Kanagawa 252-0375, Japan. yhiroshi@kitasato-u.ac.jp Telephone: +81-42-7788111 Fax: +81-42-7788390 Received: January 19, 2015 Peer-review started: January 20, 2015 First decision: March 10, 2015 Revised: March 24, 2015 Accepted: May 7, 2015 Article in press: Published online: June 7, 2015

Abstract Endoscopic retrograde cholangiopancreatography (ERCP) remains challenging in patients who have undergone surgical reconstruction of the intestine. Recently, many studies have reported that balloon

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TOPIC HIGHLIGHT

Innovations and techniques for balloon-enteroscope-assisted endoscopic retrograde cholangiopancreatography in patients with altered gastrointestinal anatomy 2015 *Advances in Gastrointestinal Endoscopy*

Hiroshi Yamauchi, Mitsuhiro Kida, Hiroshi Imaizumi, Kosuke Okuwaki, Shiro Miyazawa, Tomohisa Iwai, Wasaburo Koizumi

retrograde cholangiopancreatography

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Core tip: Endoscopic retrograde cholangiopancreatography (ERCP) remains challenging in patients with reconstructed intestine. Recently, many studies have reported that balloon-enteroscope-assisted ERCP (BEA-ERCP) is a safe and effective procedure. However, further improvements in outcomes and the development of simplified procedures are required. Various techniques have been proposed to facilitate scope insertion, cannulation, and treatment during BEAERCP. We discuss the current status of BEA-ERCP in patients with surgically altered gastrointestinal anatomy and introduce the techniques that are considered necessary in order to improve the outcomes.



Yoshinori Igarashi

(Professor of Division of Gastroenterology and Hepatology, Toho University Omori Medical Center)

CURRICULUM VITAE

Postdoctoral Training and Academic Appointments:

1981 Medical Intern, Third Department of Internal Medicine, Ohashi Hospital, Toho University School of Medicine

1983 Medical Fellow, Third Department of Internal Medicine, Ohashi Hospital, Toho University School of Medicine

1995 Assistant Professor, Third Department of Internal Medicine, Ohashi Hospital, Toho University School of Medicine

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2005 Associate Professor, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Toho University Omori Medical Center

2007 Professor, Division of Gastroenterology and Hepatology, Department of Internal Medicine, Toho University Omori Medical Center

Endoscopic treatments for the adenoma of the duodenal papilla

Tumors of the duodenal papilla include hyperplasia, adenoma, carcinoma in adenoma and carcinoma. Since the duodenal papilla has special anatomical characteristics and treatment involves major intervention, it is essential for preoperative diagnosis to be correct. Correct diagnosis rate of biopsy specimen with the tumors is about 70%. In patients with adenoma of the papilla, endoscopic snare excision is indicated for complete removal the tumor. Postoperative pancreatitis and cholangitis are major complications of endoscopic techniques, and we describe in detail here our procedure which is designed to reduce the occurrence of such complications. Endoscopic snare excision of a tumor of the major duodenal papilla was carried out in 90 patients. Bleeding after endoscopic excision occurred in 21 cases (23%), postoperative pancreatitis occurred in 24 cases (27%), postoperative cholecystitis occurred in 1 case (1%) and micro perforation occurred in 1 case (1%). All patients recovered from the complications within one week. These findings suggest that the procedure for endoscopic snare excision used to respect major papilla tumors is safe and contribute to the prevention of serious complications.

INVITED SPEAKER**Kazuo Hara**

(Director in the department of Gastroenterology, Aichi Cancer Center Hospital)

CURRICULUM VITAE

- Nagoya University School of Medicine, March 1996 graduation Medical staff of Toyohashi municipal Hospital, May 1996
- Chief physician, Department of Gastroenterology, Aichi Cancer Center Hospital, October 2001
- Medical staff of Department Tumor Biology, Nagoya University Graduate School of Medicine, April 2004
- 21Century COE Research Fellow, from April 2006 to March 2008
- Chief physician, Department of Gastroenterology, Aichi Cancer Center Hospital from April 2008 to March 2016.
- Director of Department of Gastroenterology, Aichi Cancer Center Hospital from April 2016 to now.

Specialties:

Diagnosis of Pancreatic tumors, Biliary tumors and Primary Unknown Tumors.

Interventional EUS (EUS-FNA and EUS-guided therapies), ERCP Chemotherapy for pancreato-biliary malignancies.

What is the best route of EUS-BD?

Recently, interventional EUS has become remarkably popular, especially for EUS-guided biliary drainage (EUS-BD). Although several authors have reported the usefulness and safety of EUS-BD, relatively some multicenter retrospective studies and some systematic review have been conducted to date. EUS-BD usually means EUS-CDS and EUS-HGS. Some papers reported usefulness of antegrade stenting. What is the best route of EUS-BD? Bile juice of EUS-CDS comes out in antegrade fashion, but EUS-HGS was retrograde fashion. Both techniques are really similar results? Additional antegrade stenting with EUS-HGS is really better? Only antegrade stenting is enough? To answer these question, we conducted prospective follow-up studies to analyze hepato-biliary scintigram for EUS-BD patients. From Jan 2015 to March 2016, we performed hepato-biliary scintigram for 35patients. I will show these results in my presentation.



Masaaki Shimatani

(Third Department of Internal Medicine, Kansai Medical University, Osaka, Japan)

CURRICULUM VITAE Education:1996-1998 Faculty of Medicine, Kansai Medical University, 2006 awarded Ph Degree of Medical Science from Kansai Medical University

Teaching and Research Appointments: 2004-2007 Assistant Professor, Kansai Medical University
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2004 Board Certified Internal Medicine/ 2004 Board Certified Gastroenterological Endoscopist
2005 Board Certified Gastroenterologist/ 2011 Board Certified in The Japanese Gastroenterological Association/
2011 Board Certified in The Japanese Biliary Association/ 2013 Board Certified in The Japanese Association for Capsule Endoscopy/ 2016 Board Certified in The Japanese Society for abdominal Emergency Medicine

Award: 1. Poster of distinction in DDW 2011 (Chicago) 2. Best Oral Presentation Award in 12th International Digestive Endoscopy Network (IDEN) 2013 (Seoul) 3. Best Oral Presentation Award in 14th International Digestive Endoscopy Network (IDEN) 2015 (Seoul)

Evaluation of the short-type double-balloon endoscopy assisted ERCP in patients with altered gastrointestinal anatomy

Background: Endoscopic approaches to pancreatobiliary diseases in patients with surgically altered GI anatomy using conventional endoscopes had been difficult and impractical. However the balloon-assisted endoscopy (BAE) that was developed for the treatment and diagnose of small bowel diseases made it radically feasible. Recently many studies on its usefulness have been reported.

Objective: To evaluate the utility of ERCP using the assisted BAE, particularly the ERCP modality using the short-type double-balloon endoscopy (DBE). Also to assess the newly developed short-type DBE by FUJIFILM with commentary on using experiences.

Patients and Methods: Between February 2006 and February 2016, we performed DB-ERCP using the short-type DBE in total of 931 procedures (502 patients) with surgical altered anatomy (conventional short-type DBE; 831procedures (417patients) and the newly developed short-type DBE; 100procedures (85patients)). The types of applied endoscopes were; the conventional short-type DBE (EI-530B; FUJIFILM, Tokyo, Japan) with a 152cm working length and a 2.8mm working channel, and the new short-type DBE (EI-580BT; FUJIFILM, Tokyo, Japan) with a 155cm working length and a 3.2mm working channel. The latter has new features such as the enlarged working channel, the advanced force transmission system, and the adaptive bending function. In addition, a flexible technical maneuver is enabled by improved angle-operability that facilitates to maintain a straight view of main papillae in an approach to the bile duct. Using these two types of DBEs, we evaluated; 1) The success rate of reaching the target site 2) The success rate of biliary cannulation and contrast injection of the targeted duct (the diagnostic success rate) 3) The success rate of ERCP interventions (The therapeutic success rate) 4) Adverse events.

Results: 1) The success rate of reaching the blind end was 98.6% (918/931 procedures). The success rate using conventional short-type DBE was 98.6% (819/831 procedures), and using the newly developed short-type DBE was 99.0% (99/100 procedures). 2) The diagnostic success rate was 97.7% (897/918 procedures). The success rate using the conventional short-type DBE was 97.6% (799/819 procedures), and using the newly developed short-type DBE was 99.0% (98/99 procedures). 3) The therapeutic success rate was 100% (897/897 procedures). The success rate using the conventional short-type DBE was 100% (799/799 procedures), and using the newly developed short-type DBE; 100% (98/98 procedures). 4) Occurrent rate of adverse event was 4.7% (44/931 procedures). The occurrent rate of the using conventional short-type DBE was 4.9% (41/831 procedures), and using the newly developed short-type DBE; 3.0% (3/100 procedures).

Conclusions: ERCP using the short-type DBE for biliary disease in patients with altered GI anatomy is a very useful and safe modality that could be considered as a first line treatment. Especially the newly developed short-type DBE which is particularly developed for ERCP interventions in postoperative patients is expected to improve the success rates and the safety of the procedure.

INVITED SPEAKER**Reiko Ashida**

(Osaka Medical Center for Cancer and Cardiovascular Diseases, Departments of Cancer Survey and Gastrointestinal Oncology)

CURRICULUM VITAE

Dr. Ashida is currently Co-Director of Departments of Cancer Survey and Gastrointestinal Oncology at the Osaka Medical Center for Cancer and Cardiovascular Diseases. She graduated in 1998 and obtained PhD in 2005 from the Graduate School of Medicine, Osaka City University. She started EUS since 1999 and trained EUS-FNA in 2002 at Aich Cancer Center and had the advanced fellowship program of Interventional EUS under Prof. Dr. Kenneth Chang at University of California Irvine, Medical Center between 2007-2009. Her specialty is mainly endoscopic diagnosis and treatment for pancreatobiliary oncology area, especially interventional EUS.

EUS-guided fiducial marker placement for treatment of pancreatic cancer

Chemoradiation therapy is considered a promising therapy to improve the outcome of pancreatic cancer treatment. Traditionally, parts of human anatomy such as the back bone were used as landmarks for targeting tumors during radiation therapy. However, it was difficult to account for tumor movement due to a patient's breathing or food intake especially in the case of small tumors such as resectable pancreatic cancer. Recent advancements in radiation therapy, such as Stereotactic Body Radiation Therapy (SBRT) or CyberKnife, need fiducial markers as reference points for Image-Guided Radiation Therapy (IGRT) to maximize efficacy of radiation and minimize complications. Previously, fiducial markers for pancreatic cancer treatment have been placed either intraoperatively or percutaneously under radiographic guidance or ultrasound guidance. However, with these approaches it is sometimes difficult to place fiducial markers into the targeted tumor accurately. Endoscopic ultrasound (EUS) guided fiducial marker placement (EUS-FP) has become a topic of more in-depth study recently. The EUS approach offers less invasive and more accurate marker placement especially in deep locations of the pancreas. Usually, fiducial markers were back-loaded into an FNA needle tip (22 or 19-gauge needle) and sealed with bone wax. However, this process takes time and has some limitations. To improve these problems, newer devices and materials for EUS-FP have been introduced recently. The overview and current progress of EUS-FP will be discussed.



FACULTY ABSTRACT**Endoscopic management of BBS due to chronic pancreatitis
~Multiple plastic vs covered metal~****James Lau**

The Chinese University of Hong Kong, Surgery

Benign biliary strictures (BBS)s are of different etiologies; most commonly post-operative, chronic pancreatitis (CP) and other cholangiopathies such as primary sclerosing cholangitis. ERCP and the use of multiple plastic stents has been the standard treatment in many BBSs. The use of fully covered self-expandable metal stents (FCSEMS) has been proposed as an alternative. Endoscopic insertion of FCSEMS is an easier procedure and requires no stricture dilatation and stent change. FCSEMS opens to 10 mm in diameter. In a multicenter study [1], 187 patients with BBS received FCSEMS, which were removed at 10-12 months in those with CP and post cholecystectomy and 4-6 months in those after liver transplant. Success in removing FCSEMS was 74.6%. Stricture resolution occurred in 76% of patients. At a median follow up of 20 months, stricture recurred in 14.8%. The same group [2] recently reported 3 year follow up of the same cohort of patients. In those with FCSEMS removed at 12 months and observed stricture resolution, 82% of them remained asymptomatic at 3 year. In a pooled analysis of 16 clinical studies (FCSEMS 14, MPS 4) with 435 CP patients [1, 3-17], stricture resolution was better with FCSEMS (258 of 315 vs. 45 of 90, $p < 0.005$). There was no difference in the rate of stricture recurrence. FCSEMS was associated with fewer complications (19 vs. 42%, $P = 0.029$). There has been one published US multicenter RCT [18] that compared both treatments. The RCT was designed as a non-inferiority study with a margin of 15% in the rate of stricture resolution within 12 months of stent removal. The hypothesis was that FCSEMS would be inferior to MPS. Stricture resolution was 41 of 48, 85% with MPS and 50 of 54, 92.6% with FCSEMS. The literature suggests that FCSEMS is the preferred treatment in BBSs.

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New information on EUS guided tissue acquisition

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The ability to acquire tissue easily and safely is unique to EUS, and is the key determinant in sealing its importance in most endoscopy units worldwide. The basic techniques in EUS-FNA have been well described, but the search continues for refinements that will improve diagnostic yield, especially in trans-duodenal sampling.

The clinical utility of having a cytopathologist in the room is well proven, but when this is not possible – a cell block submitted in formalin may clinch the diagnosis from core tissue within the specimen.

New needles have been introduced which aim to fulfill the promise of obtaining reliable tissue cores. In special situations where cellular yield is poor, eg. for cystic lesions of the pancreas: the search continues for molecular and other diagnostic markers & modalities that better evaluate carcinoma risk.

New and promising techniques of tissue diagnosis that are well suited to EUS access such as Circulating Tumor Cells (CTC) and Next Generation Sequencing (NGS) will be discussed.

FACULTY ABSTRACT**EUS-FNA according to the diseases and location*****Shinpei Doi***

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Endoscopic ultrasound (EUS) guided fine needle aspiration (FNA) is an established diagnostic tool in the management of pancreatic masses, upper abdominal lymph nodes, and submucosal tumors. Recently, the target lesions of EUS-FNA are expanding to various other organs and diseases. [Mediastinum]: The mediastinum is one of the most suited sites of EUS-FNA, because the echoendoscope remains straight and puncture needle is easy to maneuver in this position. Mediastinal lymph node staging is essential to optimize the treatment of lung cancer. Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) and EUS-FNA can work complementarily, and combined approach provides excellent diagnostic performance. [Liver]: EUS-FNA for liver masses has also been attempted, several studies showed that it is relatively safe and sensitive procedure. EUS-FNA may be considered when liver lesions are poorly accessible to US or CT guided biopsy. [Spleen]: EUS can provides a good image of the spleen through the gastric wall, and EUS-FNA may be easier to perform than the percutaneous approach. [Adrenal gland]: Although it has been recognized that left adrenal gland can be also visualized easily and clearly by EUS, we recently showed that the right adrenal gland was also visible in most cases by EUS. [Bile duct]: Recently, we reported that EUS-FNA was a sensitive and safe diagnostic modality for patients with suspected malignant biliary stricture and can be an additional option in cases where endoscopic brush cytology and biopsy produced negative results.



What's New in Peroral Cholangioscopy

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Peroral cholangioscopy (POC) permits direct visualization of the biliary tree for diagnostic procedures and provides endoscopic guidance for therapeutic interventions. Peroral cholangioscopy using mother-baby scope system is improving on image quality, but, still not widely used because of its disadvantages. Especially, it is on the big challenging after introducing of Spyglass Digital. With recent technological developments, SpyGlass POC system is designed for single operator, provided adequate samples for histological diagnosis, and facilitated stone fragmentation. As the first version, Spyglass Legacy is generally acceptable, but, it has several limitations, like poor image quality, difficulty of exact controllability of the moving of distal tip, and narrowed working channel. Recently, second generation Spyglass system, Spyglass Digital (DS) is introduced with high image quality, smooth controllability and easy set-up having plug and play function. More clinical studies for prospective data and cost-effectiveness are needed to analyze its potential impacts of Spyglass Digital (DS).

Direct POC using an ultra-slim upper endoscope has been proposed as a single-operator system for direct endoscopic examination of the biliary tree. Direct POC is direct insertion of an endoscope into the biliary tree without the assistance of a mother scope. It can be a valuable and economic solution for evaluating and managing bile-duct lesions because of the use of the conventional endoscope with set-up. Advantages of direct POC include its use of conventional endoscopy equipment, its superior images of the biliary tree, and large working channel. Direct POC permits the easy application of narrow-band imaging to enhance the endoscopic imaging of the surface structures and blood vessel patterns to differentiate malignant from benign biliary lesions. Enhanced endoscopic function is improving with a new ultra-slim endoscope. An ultra-slim endoscope has a larger working channel of 2 mm, enabling its use in facilitating procedures with a broad spectrum of therapeutic devices in patients with biliary diseases. Intracorporeal lithotripsy with electrohydraulic or laser lithotripsy is a main therapeutic intervention of direct POC for patients with bile duct stones that are resistant to conventional endoscopic stone-removal procedures. Tumor ablation therapies are feasible procedures under direct POC. Direct POC can be utilized to guide additional biliary interventions, like a selective biliary drainage through the difficult strictured biliary segments or cystic duct. Accessories to assist direct POC, and endoscopes to be a dedicated scope for direct POC are developing to expand the function of direct POC. With the technical development, single operator POCs are expected to expand the diagnostic and therapeutic roles for biliopancreatic lesions.

FACULTY ABSTRACT**Prospective randomized study of endoscopic biliary stone extraction using either a basket or a balloon catheter: the BasketBall study**

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Background and study aims: In Japan and Europe, a retrieval basket is generally used for endoscopic extraction of bile duct stones, while in the US, a retrieval balloon is mainly used. However, the efficacies of these two devices have not been previously compared. Therefore, the present multicenter, prospective, randomized study was performed to compare the efficacies of these two devices for endoscopic biliary stone extraction.

Patients and methods: Six Japanese institutions participated in this study, which included 184 patients with bile duct stones <11 mm in diameter with no limitation in the number of stones. The stones were identified and measured during ERCP, after which the patients were randomly assigned to undergo endoscopic stone extraction using either a basket catheter or a balloon catheter. The primary end point was the rate of complete removals of stones within 10 min, and the secondary end point was the rate of procedure-related complications.

Results: There were 91 patients in the basket group and 93 in the balloon group. The rate of successful stone extraction within 10 minutes was 81.3% (74/91) in the basket group and 83.9% (78/93) in the balloon group (P=0.7000). The complication rate was 6.6% in the basket group and 11.8% in the balloon group (P=0.3092). Complications included bleeding, pancreatitis, and cholangitis.

Conclusions: Basket and balloon catheters showed similar efficacies for endoscopic biliary stone extraction.



Current status of EPLBD in Japan

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Endoscopic papillary large balloon dilation (EPLBD) combined with endoscopic sphincterotomy (EST) was introduced to facilitate the removal of large or difficult bile duct stones. Several studies have reported that this technique is safe and effective in patients with large bile duct stones without an increased risk of severe pancreatitis or bile duct perforation. In addition, it appears to decrease procedure time and fluoroscopy time and reduce the need for mechanical lithotripsy. As an alternative method, EPLBD without a preceding EST was introduced as a simplified technique. Further evaluation and standardization of the method are required. Now in Japan, we prepare to publish the consensus of guidelines on the techniques and indications for EPLBD. Conclusions: Basket and balloon catheters showed similar efficacies for endoscopic biliary stone extraction.

FACULTY ABSTRACT**EUS-guided antegrade techniques*****Takuji Iwashita***

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In the management of biliary diseases, endoscopic retrograde cholangiopancreatography (ERCP) has been the standard management procedure because of its safe and less invasive nature and high success rate. However, ERCP is challenging in patients with surgically altered anatomy, because long limbs make it difficult to reach the biliary orifice. The use of enteroscopy has enabled more consistent access to the biliary orifice; however, the procedure is still challenging because of difficulty obtaining an en face view of the papilla using forward-viewing endoscopes, restricted scope manipulation in the looped scope position, and restricted access to the papilla without an elevator. Various types of EUS-guided biliary access methods have been reported as alternative in patients having failed ERCP. Recently, EUS-guided antegrade treatment (EUS-AG) through a temporary fistula between the intestine and the intra-hepatic bile duct (IHBD) to manage biliary disorders has been reported especially in patients with surgically altered anatomy. In this seminar, I would like to report the current status of EUS-AG for biliary disorders.



EUS-Guided pancreatic interventions

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The development of interventional EUS has provided an alternative for difficult ERCP procedures. Several EUS-guided pancreatic interventions have been reported. Of these interventions, EUS-guided pancreatic duct (PD) intervention seems to be the most difficult and challenging procedure to accomplish. EUS-guided transmural stenting using plastic stents was performed in cases in which advancing a guidewire across the anastomosis site was impossible, when the major papilla was under complete pancreatic obstruction, or when the PD had a tortuous configuration. However, rates of complications, including bleeding, perforation are typically higher for transmural stenting than for simple rendezvous placement. Recently, EUS-guided pancreatic duct drainage using a FCSEMS was reported that it may be technically feasible and relatively safe without adverse events related to FCSEMSs, including stent migration, clogging, and stent-induced ductal stricture. Herein, we report the usefulness of EUS-guided pancreatic interventions including our experiments.

FACULTY ABSTRACT**SEMS with an antireflux mechanism****Tsuyoshi Hamada**

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Distal malignant biliary obstruction (MBO) is mainly caused by pancreaticobiliary cancers, and endoscopic placement of self-expandable metal stents (SEMS) is a well-established palliative treatment of this condition in nonresectable cases. A covered SEMS can prevent stent occlusion due to tumor ingrowth and epithelial hyperplasia through the mesh wall, and therefore, provide longer stent patency particularly in pancreatic cancer.¹ However, the occlusion of covered SEMS due to sludge or food impaction remains a serious problem, and the reflux of duodenal contents into the SEMS, i.e. duodenobiliary reflux, is supposed to be a key contributor to this type of SEMS dysfunction when SEMS are placed across the papilla and the sphincter function is compromised.

To overcome those problems associated with the duodenobiliary reflux, an antireflux metal stent (ARMS) with a valve to prevent the reflux at the distal end was developed, and several investigators have reported that ARMS for nonresectable distal MBO can provide longer patency time with a lower rate of cholangitis compared with conventional SEMS. Recently, two randomized controlled trials demonstrated the superiority of ARMS over conventional SEMS.^{2, 3} The most recent trial by Lee et al. was the first proof-of-concept study which confirmed longer patency time of ARMS compared with conventional covered SEMS (median patency, 407 vs. 220 days; $P = 0.013$).³

We have used an ARMS with a funnel-shaped antireflux valve and have sought the effectiveness of this ARMS on patients who experienced covered SEMS occlusion due to the duodenobiliary reflux.^{4, 5} Based on the promising results of our pilot study, we have expanded the indication of the ARMS to a first-line SEMS for nonresectable distal MBO. In our pilot study of 20 patients receiving an ARMS as a first-line SEMS for nonresectable distal MBO, median time to recurrent biliary obstruction was 246 days, and the feasibility of the ARMS in this setting was confirmed.⁶ Currently, we are conducting a multi-center randomized controlled trial to evaluate the superiority of ARMS over conventional covered SEMS in SEMS-naïve patients (UMIN-CTR, UMIN000014784).

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Which do you like, side-by-side or stent-in-stent placement?

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The management of malignant hilar biliary obstruction (MHBO) is challenging. A self-expandable metallic stent (SEMS) is used for the palliation of MHBO due to the long stent patency as compared to a plastic stent. Although there are still controversies about unilateral or bilateral SEMS placement, two kinds of bilateral SEMS placement procedure were available, side-by-side (SBS) and stent-in-stent (SIS) placement. Both procedures have high technical and clinical success rate, but technical tips are different in each procedure. The major advantage of SBS placement is that two SEMS can be simultaneously advanced through the accessory channel of duodenoscope. Two SEMSs expand inside the bile duct, so the lumen can be secured twice as single SEMS. The stent patency might be longer than SIS placement. In contrast, SEMS can conform more physiologically to the bile duct, so the effect of stent expansion on adjacent organ is smaller than SBS placement. Furthermore, SEMSs can be placed more than 2 by SIS placement in contrast to only 2 SEMSs in SBS placement. A prospective study comparing SBS and SIS placement is mandatory for the further evidence.

FACULTY ABSTRACT**Recent Progress in Endoscopic Pancreatic Tumor Ablation Therapy*****Dong Wan Seo***

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Introduction

Endoscopic ultrasound (EUS) is a powerful tool for the delineation of pancreas and detection of small lesions in this area. Nowadays EUS is used actively in the pancreatic disease not only for the diagnosis but also for the therapeutic purposes. With modification of EUS-guided fine needle aspiration (EUS-FNA), EUS-guided injection became possible and can be used for the management of various pancreatic lesions including pancreatic cystic tumor (PCT), benign pancreatic solid tumor and pancreatic cancer. Radiofrequency ablation (RFA) has been used as a valuable treatment modality for various unresectable malignancies. EUS-guided radiofrequency ablation (EUS-RFA) of the porcine pancreas was reported to be feasible and safe, suggesting that it may be applicable as an adjunct and effective alternative treatment method for unresectable pancreatic cancer.

Pancreatic cystic tumor

Pancreatic cystic tumors are increasingly detected these days because of improved imaging modalities. Mucinous cystic tumor, serous cystic tumor, intraductal papillary mucinous neoplasm (IPMN) are most common types of PCTs. If the size is large and the tumor show typical features, differential diagnosis is not difficult. However, we are detecting smaller and smaller lesions these days because of improved imaging modalities. For small lesions, the differential diagnosis is problematic and many cystic tumors fall into indeterminate cyst even after extensive work-up. Unlike surgical resection, EUS-guided injection therapy can be applied to indeterminate cystic tumor. Ethanol injection was first tried by Gan SI et al. but complete resolution was observed in about one-third of included patients (Gastrointest Endosc 2005). Our group conducted a series of studies to evaluate the technical feasibility, safety and therapeutic efficacy of EUS-guided ablation. At first, we conducted a pilot study and selected 14 patients with PCT received EUS-guided ethanol lavage and paclitaxel injection (EUS-EP) and observed for 6 months. Complete resolution (CR) of PCT was observed in 11 patients and partial resolution (PR) in 2 patients. Next step study was focused on septated PCT and we observed 60% of CR and 20% of PR. Encouraged by above results, we conducted a long-term follow-up study after EUS-EP of PCT. Fifty-one patients were enrolled for EUS-EP by the following inclusion criteria; 1) uni- or oligolocular cyst, 2) indeterminate tumors for which EUS-FNA was required, and 3) PCTs showing size growth during the observation period. Under EUS-guidance, cyst fluid aspiration, ethanol lavage and injection of paclitaxel were performed. Twenty PCTs were oligolocular. Mean CEA level was 463 ng/mL (1-8190). The median follow-up was 20.6 months. Mean volume of PCT decreased from 14.09 mL to 3.31 mL. CR was observed in 28 patients, PR in 6 patients, and a cyst persisted in 12 patients. Splenic vein thrombosis as procedure-related complication occurred in 1 patient. EUS-EP appears to be a safe and effective method for treating PCT.



Benign solid pancreatic tumors

Solid pseudopapillary neoplasm and neuroendocrine tumor including insulinoma are typical example of benign solid pancreatic tumor. These lesion can be ablated by EUS-guided intervention. The technical feasibility and efficacy of ethanol injection have been reported although the number of studies are limited. Based on anecdotal data, ethanol injection effectively controlled functioning insulinoma and neuroendocrine tumors without causing serious complications. The method of injection and amount of ethanol are not standardized and long-term follow-up studies are required. Recently EUS-guided RFA technique is introduced and this can also be applied to manage benign solid pancreatic tumors in the future.

Pancreatic ductal adenocarcinoma

Pancreatic ductal adenocarcinoma shows dismal prognosis and about 80% of the cases are unresectable at the time of diagnosis. For unresectable cases, the effect of chemotherapy is quite limited. Majority of patients still show large mass causing compression and infiltration into nearby structures. The first EUS-guided injection of antitumor agent was reported by Chang K et al (Cancer 2000). Pilot study of cytoimplant injection showed promising results but subsequent trial failed to show similar results. After this report, there have been many trials using ONYX015, TNFerade, dendritic cells, dendritic cell plus gemcitabine, and adenovirus H101. All these trials showed limited initial success with minor complications and subsequent trials did not show similar results. EUS-guided radioactive iodine seed implantation can be tried for the local control of unresectable pancreatic cancer and the short-term studies showed very good result. If the patient complains severe pain, EUS-guided celiac plexus neurolysis using 100% ethanol and bupivacane can decrease the intensity of pain. Our group is conducting a study using EUS-guided RFA for the palliation of unresectable advanced pancreatic cancer. EUS-guided direct ablation of pancreatic cancer seems to be possible without causing serious complication. However, this study is still ongoing and it is too early to draw any conclusion.

Conclusions

EUS-guided ablation therapy can be used for the management of pancreatic cystic tumor, benign pancreatic solid tumor and pancreatic cancer. For cystic tumor treatment, EUS-guided approach can achieve sustainable CR without causing serious complication. Regarding EUS-guided ethanol injection therapy, the technical feasibility and initial safety of this modality have been reported by several studies, there are still unsolved issues requiring more studies. This technique started to be used recently and it is expected to be used more widely in the future for the management of small pancreatic lesions. EUS-guided RFA seems to have promising future and the ablation is very effective. However more studies are required to establish the method for larger ablation without sacrificing the safety issue.

FACULTY ABSTRACT**How to use plastic stent?*****Hiroyuki Isayama***

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Endoscopic placement of plastic stents was basic procedures to the both biliary and pancreatic duct. To maximize the effect and minimize the complication, we should know the indications and tips of placement. Recently, chance to use the self-expandable metallic stents was increased and the role of plastic stent was considered to be decreased. However, there are still many indications for plastic stent placement. In this lecture, I will talk about stent selection, strategies according to the patient's status and introduction of special stents.



Multinational study on endoscopic management of combined biliary and duodenal obstructions (TCAP-1 study)

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Endoscopic biliary drainage has become the mainstream of palliative management of nonresectable distal malignant biliary obstruction (MBO), and the introduction of self-expandable metal stents (SEMS) has greatly contributed to improvements in patient's quality of life via prolonged patency time compared with plastic stents. On the other hand, distal MBO is occasionally complicated by gastric outlet obstruction, and endoscopic placement of duodenal SEMS is widely accepted as an effective nonsurgical palliative treatment for malignant gastric outlet obstruction. Endoscopic biliary drainage poses a major challenge for endoscopists in patients with combined biliary and duodenal obstructions because deformity of the duodenum and duodenal SEMS hinder transpapillary biliary drainage.

The feasibility and effectiveness of transpapillary biliary SEMS combined with duodenal SEMS has been reported,¹ but early dysfunction of biliary SEMS placed across the papilla is often encountered due to the duodenobiliary reflux enhanced by duodenal stenosis and reduced duodenal peristalsis.² Recently, the effectiveness of endoscopic ultrasound-guided biliary drainage (EUS-BD), such as hepaticogastrostomy and choledochoduodenostomy, has been increasingly reported.^{3, 4} This procedure provides a biliary drainage route away from a duodenal SEMS and, thus, may be expected to prolong longer patency in cases with an indwelling duodenal SEMS.⁵ Our retrospective study suggested the potential superiority of EUS-guided transmural drainage over transpapillary drainage in terms of stent patency, but this study was limited by a small sample size (n = 20).⁶ The appropriate method of endoscopic biliary drainage in patients with an indwelling duodenal SEMS remains controversial.

Therefore, we were motivated to conduct an international multicenter study to evaluate the feasibility and effectiveness of EUS-BD compared with transpapillary drainage in patients with duodenal obstruction (TCAP-1 study; ClinicalTrials.gov number, NCT02376907). Data from the institutions of T-CAP faculty members were retrospectively collected during the study period 2010-2014, and 110 cases were included in the database as of March 2016. We will present the results of this study, specifically focusing on timing of distal MBO in relation to duodenal obstruction and the location of duodenal obstruction.

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FREE PAPER : ORAL SESSION**A novel dynamic imaging of gallbladder tumor vessels with contrast-enhanced harmonic EUS**

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Objective: The differential diagnosis of gallbladder lesions is often a challenge. To evaluate the utility of contrast-enhanced harmonic endoscopic ultrasonography (CH-EUS) using extended tissue harmonic detection (ExTHD) mode for diagnosis of the localized gallbladder lesions.

Methods: Single-center, retrospective review of prospectively collected imaging, clinical, and pathological data. 125 patients with localized gallbladder lesions were evaluated by novel CH-EUS between March 2007 and February 2014. CH-EUS was performed by using the ExTHD mode (a specific mode for depicting microcirculation). The abilities of fundamental B-mode EUS (FB-EUS) and CH-EUS to differentiate between gallbladder elevated lesions and sludge balls were compared. Thereafter, the diagnostic accuracies of malignant lesions of these 2 examinations were compared. Two blinded reviewers evaluated microcirculation patterns in the vessel images (spotty, irregular and no vessel) and the perfusion images (homogeneous, oval perfusion defect, heterogeneous and absent enhancement).

Results: Diagnosis of elevated lesion in FB-EUS had a sensitivity, specificity and accuracy of 82%, 100% and 95%, respectively. In contrast, diagnosis ability of CH-EUS had a sensitivity, specificity and accuracy of 100%, 99% and 99%, respectively. Diagnosis of the cancers in FB-EUS according to the tumor-size and/or shape had a sensitivity, specificity and accuracy of 61-87%, 71-88% and 74-86%, respectively. In contrast, irregular vessels in the vessel image and/or heterogeneous enhancement in the perfusion image by CH-EUS aided in the diagnosis carcinomas with a sensitivity specificity and accuracy of 90%, 98% and 96%, respectively.

Limitations: A single medical unit with a limited number of patients.

Conclusions: The novel CH-EUS using ExTHD mode was useful to differential diagnosis of biliary sludge from elevated gallbladder lesion and detect irregular vessels and heterogeneous enhancement in gallbladder cancer.

Key words: Endoscopic ultrasonography; contrast-enhanced harmonic endoscopic ultrasonography; gallbladder; gallbladder cancer



SpyGlass Direct Visualization System Versus Direct Peroral Cholangioscopy Using by a Mulibending Ultraslim Endoscope as a Single-Operator Peroral Cholangioscopy for the Managing Biliary Lesions: a Prospective Comparative Study

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Objectives: Single-operator peroral cholangioscopy (POC) has been a new modality for diagnosis and treatment for various bile duct (BD) diseases. Up to date, SpyGlass direct visualization system (SpyGlass) and direct POC (DPOC) using ultra-slim endoscope have been used as a single operator POCs. However, there is no study to comparing two systems. In this study, we prospectively compared the procedure success rate of POC using SpyGlass and DPOC for diagnosis and treatment of BD lesions.

Methods: A total of 21 patients with BD lesions (diameter of CBD \geq 8 mm) requiring evaluation or treatment using POC were enrolled prospectively. All patients received POC using SpyGlass and mulibending ultraslim endoscope for DPOC. According to the presence of obstructive lesion, all patients were classified as obstructive type (8 patients) or non-obstructive type (13 patients), respectively. Technical and procedural success defined as abilities to visualize bifurcation / obstructive lesions and visualize target lesions / stone fragmentation, respectively.

Results: There was no significant differences between the SpyGlass and DPOC in technical success rates (100% vs. 95.2%, $P=0.485$) and overall procedural success rate (71.4 % vs.90.5%, $P=0.119$).The procedural success rates of Spy-Glass and DPOC were not different in 8 obstructive type (100%vs. 87.5%, $P=0.5$). In 13 non-obstructive type, DPOC showed significantly higher procedural success rate (53.8% vs. 92.3%, $P=0.037$). There was no significant difference between SpyGlass and DPOC groups in the success rates of targeted biopsy (80% vs. 100%, $P=0.385$) and stone lithotripsy (100% vs. 75%, $P=0.5$), respectively.

Conclusions: Both SpyGlass and DPOC demonstrated high technical success rates in patients with biliary lesions having dilated BD, but DPOC showed a higher procedural success for non-obstructive BD lesion. The POC using SpyGlass or DPOC according to the characteristics of BD lesion can be considered to improve the success rate of managing biliary lesions.

FREE PAPER : ORAL SESSION**Clinical values of cytodiagnosis using pancreatic juice multiple times via endoscopic nasopancreatic drainage for early diagnosis of pancreatic cancer**

Tomoyuki Minami, Keiji Hanada, Naomichi Hirano, Akihito Okazaki, Juri Ikemoto, Motomitsu Fukuhara, Shuji Yonehara

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Background: Cytodiagnosis pancreatic juice multiple times via endoscopic nasopancreatic drainage catheter (ENPD cytodiagnosis) is a useful method for early diagnosis of pancreatic cancer (PC). As for the indication of ENPD cytodiagnosis, features other than the main pancreatic duct stenosis have not been clear.

Objective: The aims of this study were to demonstrate clinical values of ENPD cytodiagnosis for early diagnosis of pancreatic cancer.

Methods: From January 2007 to November 2015, we studied the ENPD related complications and diagnostic performance of cytodiagnosis for the subject of 100 cases that underwent ENPD cytodiagnosis in our hospital. In addition, we examined the characteristics of imaging findings in PC cases that underwent ENPD cytodiagnosis.

Results: The rate of ENPD related acute pancreatitis was 5%. No severe pancreatitis was found. For the dependence on ENPD placing site, the incidence of pancreatitis was higher when placing in the papilla side of the main pancreatic duct (MPD) stenosis, but no significant difference was observed (papilla side of stenosis: 2/13, caudal side of stenosis: 2/62, without stenosis: 1/25; $p = 0.16$). PC was found in 32 cases, and the diagnostic performance of ENPD cytodiagnosis was sensitivity: 81.3%, specificity: 100%, and accuracy: 94.0%. No significant difference was found for the diagnostic performance depending on the ENPD placing site (sensitivity was papilla side: 3/5, caudal side: 21/25, and without stenosis: 2/2; $p = 0.51$). There were 25 cases that did not have a main pancreatic duct stenosis, among them 2 cases were positive for pancreatic juice cytodiagnosis, having diagnosed as intraductal papillary mucinous adenocarcinoma. Among 75 cases with a main pancreatic duct stenosis, PC was found in 30 cases (stage 0:16 cases, IA: 7 cases, IB: 1 case, IIA: 2 cases, IIB: 4 cases). The diagnostic performance of ENPD cytodiagnosis for PC with MPD stenosis was sensitivity: 80.0%, specificity: 100%, and accuracy: 92.0%. In the study of 30 cases of PC having a MPD stenosis which underwent the ENPD cytodiagnosis, a cystic lesion was observed around the stenosis by MRCP in 80.0% (20/25). As for EUS, a hypoechoic lesion was observed around the stenosis in 76.7% (23/30). In these 30 cases of PC, the proportion of finding either cysts or hypoechoic lesions around MPD stenosis was 96.7% (29/30). Moreover, among negative cases of ENPD cytodiagnosis having a pancreatic duct stenosis, there were 3 cases diagnosed as PC in a re-examination of ENPD cytodiagnosis.

Conclusion: In ENPD cytodiagnosis, it is necessary to pay attention to acute pancreatitis. Accuracy of ENPD cytodiagnosis is high, and it was useful for early diagnosis of PC. With a MPD stenosis, a cyst or a hypoechoic lesion is observed around the stenosis, it is considered that ENPD cytodiagnosis should be applied, but the sensitivity of ENPD cytodiagnosis is satisfactory. In the cytodiagnosis negative case, it is necessary to consider a re-examination of ENPD cytodiagnosis.



EUS GUIDED CHOLECYSTOGASTROSTOMY IN ACLF WITH ACUTE CALCULOUS CHOLECYSTITIS

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Introduction: ACLF(acute on chronic liver failure) is associated with high mortality and poor overall survival. EUS guided cholecystogastrostomy can be used as a life saving technique in such patients with Acute calculous cholecystitis. Due to presence of ascites, PTBD (percutaneous biliary drainage) is contraindicated in these patients.

Methods: We present two cases of ACLF with acute calculous cholecystitis and septic shock who underwent EUS guided GB drainage as a life saving maneuver.

Results: Two cases of ACLF with MELD score of 24 and 26 respectively presented with acute cholecystitis and systemic sepsis (TLC 20,430 and 23543 mm³) respectively, their INR were 2.3 and 2.6 respectively and both had shock requiring inotropes. USG abdomen showed GB stones, hugely distended GB with moderate ascites and abdominal wall collaterals. Both were high risk for percutaneous drainage and hence were taken up for EUS guided GB drainage. 19G access needle (Cook's) was used for initial puncture followed by CRE dilatation (Boston Scientific) of the tract. In the first case two plastic stents (double pig tail -7 fr x 4 cm) were placed and in the second case a NAGI stent was deployed. Both the patients recovered and were discharged within a week.

Conclusion: EUS guided biliary procedures in advanced liver failure are challenging but life saving and hence expanding the role of EUS in these patients is to be explored.

FREE PAPER : ORAL SESSION**Risk Factors of delayed bleeding after Endoscopic Sphincterotomy**

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Objective: To clarify the risk factors of delayed bleeding after endoscopic sphincterotomy(EST).

Methods: Between April 2011 and March 2016, 1165 patients underwent ERCP-related procedures including EST, who were analyzed retrospectively. We classified post-EST bleeding according to the onset; immediate bleeding which was recognized just after EST and required endoscopic therapy, and delayed bleeding which was pointed out as symptomatic bleeding after endoscopic procedures. Evaluation points were 1) patient characteristics, 2) frequency of bleeding, and 3) risk factors for delayed bleeding.

Results: 1) The median age was 74(range, 14-101) years, and 667 of them were male. Their underlying diseases were bile duct stone in 835(71.7%), biliary obstruction in 283(24.3%), and other biliary disease in remaining 47. Anti-thrombotic agents were administered to 392(33.6%) patients. While 69(17.6%) of them continued anti-thrombotic agents, remaining 323(82.4%) withdrew them including 80 patients who received heparin substitution. 2) Post-EST bleeding was occurred in 125(10.7%) patients. Among them, 100(8.6%) patients showed immediate bleeding and 34(2.9%) patients showed delayed bleeding. The severity of delayed bleeding was mild in 7, moderate in 21, and severe in 6. All of them were successfully treated with endoscopic hemostasis. 3) Univariate analysis showed that delayed bleeding was more occurred in the patients who showed immediate bleeding($p=0.002$), received hemo-dialysis($p=0.018$), or heparin administration instead of anti-thrombotic agents($p=0.023$). Multivariate analysis proved that the risk factors of delayed bleeding were immediate bleeding(HR 3.70, 95%CI 1.62-8.44) or hemo-dialysis(HR 5.16, 95%CI 1.35-19.8).

Conclusions: This analysis proved immediate bleeding or hemo-dialysis are the risk factors of delayed bleeding.



Comparison of treatment outcomes between the use of 10-mm and 12-mm covered self-expandable metallic stents for unresectable malignant biliary obstructions

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Objective: We retrospectively compared the clinical treatment results of the novel, 12-mm, fully-covered SEMS (CSEMS-12) and the conventional 10-mm CSEMS (CSEMS-10) in patients with malignant distal biliary obstruction.

Methods: In total, 269 consecutive patients who had undergone CSEMS-10 or CSEMS-12 placement until December 2015 were enrolled in our study. We assessed the causes of recurrent biliary obstruction (RBO), time to RBO (TRBO), adverse events, and reinterventions according to the Tokyo criteria 2014.

Results: CSEMS-10 was placed in 210 patients and CSEMS-12 was placed in 59 patients. The median survival time was 174 days in patients with CSEMS-10 placement and 241 days in patients with CSEMS-12 placement ($p = 0.0026$). RBO was observed in 80 (38%) and 19 patients (32%) with CSEMS-10 and CSEMS-12 placement, respectively. The causes of RBO were food impaction and/or sludge formation in 48 (23%) and 7 (12%), tumor ingrowth in 2 (1%) and 2 (3%), tumor overgrowth in 10 (5%) and 1 (2%), distal migration in 13 (6%) and 4 (7%), and proximal migration in 5 (2%) and 2 (3%) patients with CSEMS-10 and CSEMS-12 placement, respectively. Moreover, 2 (1%) and 3 (5%) patients with CSEMS-10 and CSEMS-12 placement who developed non-occlusion cholangitis required reintervention. The median TRBO in patients with CSEMS-10 and CSEMS-12 placement was 132 and 183 days ($p = 0.0002$), respectively.

Conclusion: Our results suggest that CSEMS-12 may be more effective for malignant distal obstructions than CSEMS-10. However, randomized controlled trials with conventional CSEMS-10 will be necessary to evaluate the usefulness of CSEMS-12.

FREE PAPER : ORAL SESSION

Comparison of Endoscopic sphincterotomy, Endoscopic Papillary Large Balloon Dilation, and Endoscopic sphincterotomy plus large-balloon dilation for choledocholithiasis: a systematic review and network meta-analysis

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Objectives

Comparing to endoscopic sphincterotomy (EST), two methods of endoscopic papillary large balloon dilation (EPLBD) alone and EPLBD combined with EST (ESLBD) offered another alternative to deal with large or difficult bile duct stones removal in the past decade. In view of inadequate head-to-head comparison trials, the superiority and safety among these three techniques remain controversial. Therefore, we aimed to use network meta-analysis to provide evidence on comparative effectiveness for clinical decision-making.

Methods

We systematically reviewed randomized controlled trials from PubMed, Embase and abstracts from international conferences to compare EST alone, EPLBD alone, and ESLBD regarding successful stone removal, mechanical lithotripsy (EML) use and overall complications. In addition to pairwise meta-analyses, mixed models for network meta-analysis was undertaken to compare the 3 procedures together. After running a network meta-analysis, we used simulations to calculate the ranking of treatment.

Results

Total nine eligible articles were included for final analysis. In our result, ESLBD caused fewer EML use than EST alone (OR = 0.51, 95%CI: 0.35-0.74, P <0.001) (Table 1). Although there were no significant difference in complete stone removal, first session successful stone removal and all different kinds of complication rates between three groups, EST was ranked the worst successful stone removal and the most frequent use of EML (Table 2).

Conclusions

Both of EPLBD and ESLBD for the removal of large bile duct stones are an effective and safe approach with fewer mechanical lithotripsy use than EST alone.

Figure 1. Network plot

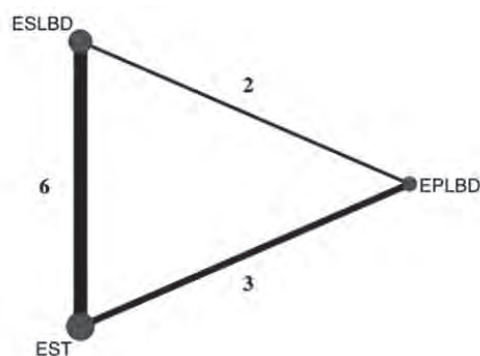




Table 1. Comparisons of EST, EPLBD, and ESLBD: Pooled ORs for successful stone removal rate and complications

*p-value < 0.05

	Traditional pairwise meta-analysis OR (95% CI)	Network meta-analysis OR (95% CI)
Overall successful stone removal		
EPLBD vs EST	1.88 (0.68 – 5.24)	1.36 (0.57 – 3.23)
ESLBD vs EST	1.37 (0.78 – 2.40)	1.54 (0.77 – 3.11)
EPLBD vs ESLBD	0.64 (0.20 – 2.02)	0.88 (0.36 – 2.17)
First session successful stone removal		
EPLBD vs EST	1.21 (0.46 – 3.20)	1.70 (0.90 – 3.23)
ESLBD vs EST	1.29 (0.67 – 2.49)	1.41 (0.91 – 2.18)
EPLBD vs ESLBD	0.70 (0.18 – 2.74)	1.21 (0.59 – 2.49)
EML use		
EPLBD vs EST	0.67 (0.29 – 1.57)	0.68 (0.44 – 1.05)
ESLBD vs EST	0.60 (0.38 – 0.95)*	0.51 (0.35 – 0.74)*
EPLBD vs ESLBD	1.86 (0.96 – 3.60)	1.35 (0.83 – 2.20)
Overall complications		
EPLBD vs EST	0.93 (0.49 – 1.78)	0.85 (0.48 – 1.52)
ESLBD vs EST	0.69 (0.39 – 1.23)	0.69 (0.41 – 1.14)
EPLBD vs ESLBD	0.93 (0.35 – 2.49)	1.24 (0.63 – 2.46)
Bleeding		
EPLBD vs EST	0.58 (0.19 – 1.78)	0.57 (0.18 – 1.79)
ESLBD vs EST	1.29 (0.41 – 4.01)	1.13 (0.38 – 3.35)
EPLBD vs ESLBD	1.00 (0.06 – 16.3)	0.50 (0.11 – 2.28)
Pancreatitis		
EPLBD vs EST	0.81 (0.31 – 2.10)	0.88 (0.39 – 2.01)
ESLBD vs EST	0.84 (0.4 – 1.79)	0.78 (0.39 – 1.57)
EPLBD vs ESLBD	1.30 (0.38 – 4.37)	1.13 (0.46 – 2.79)
Cholangitis		
EPLBD vs EST	1.54 (0.42 – 5.61)	0.95 (0.20 – 4.38)
ESLBD vs EST	0.60 (0.15 – 2.37)	0.42 (0.13 – 1.38)
EPLBD vs ESLBD	0.49 (0.04 – 5.55)	2.23 (0.37 – 13.6)
Perforation		
EPLBD vs EST	3.30 (0.13 – 83.5)	0.50 (0.02 – 12.6)
ESLBD vs EST	0.29 (0.05 – 1.78)	0.21 (0.02 – 2.34)
EPLBD vs ESLBD	0.37 (0.01 – 9.13)	2.37 (0.10 – 58.8)

Table 2(A). Ranking of successful stone removal rate among three techniques

	Best	Second	Worst
Overall successful stone removal	ESLBD	EPLBD	EST
First session successful stone removal	EPLBD	ESLBD	EST

Table 2(A). Ranking of successful stone removal rate among three techniques

	Least	Second	Most
EML use	ESLBD	EPLBD	EST
Overall complications	ESLBD	EPLBD	EST
Pancreatitis	ESLBD	EST	EPLBD
Perforation risk	ESLBD	EST	EPLBD
Cholangitis	ESLBD	EST	EPLBD
Bleeding risk	EPLBD	EST	ESLBD

FREE PAPER : ORAL SESSION**Efficacy of the 6-mm fully covered self-expandable metallic stent for EUS-guided hepaticogastrostomy: a prospective clinical study**

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Objective

EUS-guided hepaticogastrostomy (EUS-HGS) has been carried out as an alternative to the percutaneous or surgical approach. Despite high technical and clinical success rates, rates of adverse events have also been high. Recently, we used the 6-mm fully covered self-expandable metal stents (FCSEMS) for EUS-HGS to prevent adverse events and perform re-intervention easily. The aims of this prospective clinical study were to evaluate the safety, feasibility, and clinical efficacy of the 6-mm FCSEMS for EUS-HGS.

Patients and methods

The consecutive jaundiced 20 patients with distal malignant biliary obstruction undergoing EUS-HGS using the 6mm FCSEMS were prospectively identified between February 2012 and March 2016.

Results

The median age was 68 years (M/F 27/15). The reasons for requiring EUS-HGS were altered upper gastrointestinal anatomy (n=11, 55%) and duodenal obstruction (n=9, 45%). The technical success rate was 100% and clinical success rate was 95%.

CRP elevation without fever were seen in four cases, and fever due to segmental cholangitis were seen in three cases. All cases were treated conservatively. Serious complications were not seen. Median time to stent dysfunction was 87days. The stent dysfunction were seen in seven cases. The cause of stent dysfunction were biliary sludge (n=5) and distal stent migration (n=4). In eight cases, we could reinsert a new stent easily. In only one patient, we chose percutaneous drainage because of general condition turned worse.

Conclusions

The 6-mm FCSEMS was useful, especially for avoiding serious complications and re-intervention. mechanical lithotripsy use than EST alone.



Feasibility of the Conversion of Percutaneous Cholecystostomy to Internal Transmural Gallbladder Drainage Using Endoscopic Ultrasound-guided Plastic Stents Insertion.

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Objective

To evaluate the feasibility of internalization of percutaneous cholecystostomy drainage for acute cholecystitis using the endoscopic ultrasound (EUS) guided placement of plastic stents in patients unfit for cholecystectomy.

Method

We collected the data of 5 patients who underwent internal transmural gallbladder drainage as the conversion from percutaneous cholecystostomy.

Result

The technical success and clinical success were achieved and the percutaneous cholecystostomy tubes were subsequently removed in all patients. No recurrent cholecystitis was seen.

Patient	Initial disease/ cause of cholecystitis	Puncture site	Dilator devices	Stent(s)	External drainage dwelling time before/after internal drainage(days)	Early Complication & treatment
1	Hilar cholangiocarcinoma/ after SEMS	Stomach	7Fr Soehendra dilator, then 4 mm balloon dilator	7 Fr 4 cm double pigtail	11/14	None
2	Colonic carcinoma/ after SEMS	Duodenal bulb	6 Fr electrocautery dilator then 4 mm balloon dilator	7 Fr 2 cm double pigtail	19/37	None
3	Hepatocellular carcinoma/ calculus cholecystitis	Duodenal bulb	6 Fr electrocautery dilator then 4 mm balloon dilator	7 Fr 7 cm double pigtail *2 stents	63/72	None
4	Mid CBD cholangiocarcinoma/ calculus cholecystitis	Duodenal bulb	6 Fr electrocautery dilator then 4 mm balloon dilator	7 Fr 10 cm double pigtail, 7Fr pigtail ENBD (temporary)	10/2	None
5	Cystic duct carcinoma/ after SEMS	Duodenal bulb	6 Fr electrocautery dilator then 6 mm balloon dilator	7 Fr 10 cm double pigtail	Nov-44	Peritonitis, conservative treatment

SEMS= self-expandable metallic stent

Conclusion

The conversion of percutaneous cholecystostomy to internal transmural gallbladder drainage using plastic stents is feasible for patients unfit for cholecystectomy.

FREE PAPER : ORAL SESSION**Electrocautery vs. non-electrocautery dilation catheters in endoscopic ultrasonography-guided pancreatic fluid collection drainage**

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Objective

To investigate the safety and utility of an electrocautery dilation catheter for endoscopic ultrasonography (EUS)-guided pancreatic fluid collection (PFC) drainage.

Methods

This retrospective study was conducted between August 2010 and August 2014 at our institution (UMIN: 000018352). The subjects included 28 consecutive patients who underwent EUS-guided transmural drainage (EUS-TD) for symptomatic PFCs by using a 19-gauge needle. These patients were retrospectively divided into two groups by using a fistula dilation catheter; 15 patients with an electrocautery dilation catheter (E group), and 13 patients with a non-electrocautery dilation catheter (NE group). We evaluated the technical and clinical successes and the adverse events of EUS-TD for PFCs between the groups.

Results

There were no significant differences in characteristics of patients between the groups. Thirteen patients (87%) in the E group and 10 patients (77%) in the NE group presented with infected PFCs. The technical success rates of EUS-TD for PFCs were 100% in both groups. The clinical success rates of EUS-TD for PFCs were 67% (10/15) and 69% (9/13) for the E and the NE groups, respectively ($P=0.794$). The mean procedure time of EUS-TD for PFCs in the E group was significantly shorter than that of the NE group (30 ± 12 minutes vs. 52 ± 20 minutes, $P<0.001$). Adverse events of EUS-TD for PFCs occurred in 0 patient and 1 patient for the E and the NE groups, respectively ($P=0.942$).

Conclusion

EUS-TD using an electrocautery dilation catheter as a fistula dilation device for symptomatic PFCs appears safe and contributes to a shorter procedure time.

Role of Fluorescence In Situ Hybridization in Diagnosing Cholangiocarcinoma in Indeterminate Biliary Strictures

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Objectives

Brush cytology method to diagnose cholangiocarcinoma, has low diagnostic sensitivity and false-negative results. This is due to reactive cellular changes, mimicking malignancy. We aim to study the clinical utility of fluorescence in situ hybridization (FISH) in enhancing identification of malignant biliary strictures.

Methods

Brush cytology specimens collected from ERCP for biliary strictures in Singapore General Hospital from March 2013 to July 2015 were examined by FISH technique using UroVysion probe set (Figure 1 and 2) in this prospective study. A definitive diagnosis of cholangiocarcinoma was defined as evidence from surgical resection, or clinical follow-up i.e. progression of disease on serial imaging studies or death from malignancy.

Results

30 patients were chosen with 5 patients having multiple FISH done due to indeterminate results. Among all 30 patients, 60.0% were male and 76.7% were Chinese in ethnicity. Median age was 68 years. The diagnoses for biliary strictures were 13 (43.3%) cholangiocarcinoma, 7 (23.3%) pancreatic cancers, 7 (23.3%) benign biliary strictures and 3 (10%) primary sclerosing cholangitis. Conventional brush cytology had sensitivity of 53.8% with specificity of 82.4%. Both positive and negative predictive values were 70%. FISH had sensitivity of 30.8% with specificity of 100%. Positive predictive value was 100% and negative predictive value was 65.4%. When FISH results were interpreted in cases with negative or atypical brush cytology, 2 patients had positive FISH results and cholangiocarcinoma. Based on this pilot study, FISH increased sensitivity of brush cytology from 53.8% to 69.2% while preserving specificity of 82.4%.

Conclusion

Compared with conventional cytology with low sensitivity, FISH may help to increase sensitivity on top of brush cytology while maintaining high specificity. Advanced molecular cytology techniques can be used in indeterminate biliary strictures to help improve cancer detection.

FREE PAPER : POSTER SESSION**The usefulness of direct peroral cholangioscopy combining with intraductal ultrasonography for the evaluation of indeterminate bile duct lesions**

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Objective: The evaluation of indeterminate bile duct strictures or filling defects is clinical challenging. Direct peroral cholangioscopy (DPOC) may be helpful by allowing endoscopic visualization and targeting biopsy. However, the evaluation of bile duct wall layers or extraductal lesions is impossible with DPOC. Intraductal ultrasonography (IDUS) provides high-resolutive ultrasonic findings of the bile duct wall and extraductal structures. We evaluated the usefulness of DPOC combining with IDUS in evaluation of indeterminate bile duct lesions.

Methods: Total 31 patients with indeterminate biliary strictures or undefined filling defects in preceding conventional imaging modalities including ERCP were evaluated by IDUS and DPOC by using an ultra-slim upper endoscope. Inclusion criteria includes dilated distal bile duct more than 8 mm. Asymmetrical irregular wall thickening and intraductal protruding or polypoid lesions with ductal disruption in IDUS findings were diagnosed as malignant lesions. Irregular surface with stricture, tortuous tumor vessels, protruding mass lesions, and granular or papillary mucosal lesions in DPOC findings were diagnosed as malignant lesions. Final diagnoses were confirmed by histopathologic results and/or clinical follow-up outcomes.

Results: Evaluated indetermined bile duct lesions were finally diagnosed as 17 malignant, 1 adenoma and 13 benign lesions. The overall diagnostic accuracy of DPOC visual impression for indeterminate bile duct lesions was 80.6% (25/31). Three nonspecific small polypoid lesions and one flat elevated lesion without dilated vessels or mucosal irregularity in DPOC had been diagnosed as polypoid masses with ductal wall thickening with or without invasion in IDUS. One papillary mucosal lesion in DPOC was showed as symmetrical wall thickening in IDUS. And one intraductal polypoid mass lesion in DPOC was revealed as extraductal invading mass in IDUS. DPOC-guided targeted biopsy was performed in 87.1% (27/31) with diagnostic accuracy of 92.6% (25/27).

Conclusion: DPOC with targeted biopsy was useful for differentiating indeterminate bile duct lesions with high diagnostic accuracy. IDUS may provide adjunctive information before performing cholangioscopic evaluation by providing bile duct wall and periductal images of target lesions.

Key Words: intraductal ultrasonography, peroral cholangioscopy, indeterminate biliary stricture



Direct Peroral Cholangioscopy by Using a Newly Developed Multibending Ultraslim Endoscope for the Treatment of Difficult Bile Duct Stones

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OBJECTIVE: As direct peroral cholangioscopy (POC) by using an ultra-slim endoscope provides direct visualization of the bile duct and allows performing of various therapeutic interventions more safely, several accessories have been developed to overcome low success rates of direct POC. In a recent, a multibending ultraslim endoscope was developed as a dedicated cholangioscope for direct POC. The aim of this study was to evaluate the usefulness of direct POC by using a newly developed multibending ultraslim endoscope for lithotripsy in patients with difficult bile duct stone.

METHODS: A total of 20 patients, who were unsuccessfully treated for bile duct stones using conventional endoscopy, including mechanical lithotripsy (ML), underwent electrohydraulic lithotripsy (EHL) or laser lithotripsy (LL) under direct POC using a multibending ultraslim endoscope (Olympus Co., Tokyo, Japan). If a direct POC without accessory failed, an intraductal balloon (MTW Endoskopie, Wesel, Germany)-guided direct POC was performed. The success rate of complete stone removal and procedure-related adverse events were evaluated.

RESULTS: A successful direct POC using a multibending ultraslim endoscope was achieved in all patients. The fragmentation of stone using 9 EHL or 11 LL was successful in 19 of 20 patients (95.0%). The complete stone removal was achieved in all patients (19/19). There were no procedure-related adverse events except one case of mild bleeding.

CONCLUSIONS: The direct POC by using a multibending ultraslim endoscope may be effective for the lithotripsy in patients with difficult bile duct stones.

FREE PAPER : POSTER SESSION**Endoscopic ultrasound-guided fine needle aspiration of suspected metastatic lymph nodes**

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Objective: It is Sometimes difficult to differentiate between metastatic and inflammatory lymph nodes with imaging alone. Our indications for endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) for suspected metastatic lymph nodes are 1) Staging of a malignant tumor, 2) Diagnosis of a malignant tumor of unknown origin, 3) diagnosis of a recurrent malignant tumor, and 4) confirmation of pathological findings when biopsy of the main lesion is difficult. The purpose of this study was to assess the efficacy of EUS-FNA in patients with suspected metastatic lymph nodes.

Methods: EUS-FNA was performed on 21 lymph nodes (range: 10-41 mm) of 21 patients (age range: 40-83 years), The purpose of EUS-FNA, pathological diagnosis, and influence on diagnosis or treatment were retrospectively evaluated.

Results: The purpose of EUS-FNA were staging of malignant tumors (4 cases), diagnosis of malignant tumors of unknown origin (8 cases), diagnosis of recurrent malignant tumors (5 postoperative cases), and confirmation of pathological findings in patients for whom biopsy was difficult to perform for the main lesion (4 cases).

All patients were diagnosed with malignant tumors (16 adenocarcinoma, 3 Squamous cell carcinoma, 1 Hepatocellular carcinoma, and 1 Germ cell tumor). Five cases with multiple swollen lymph nodes, which we suspected for malignant lymphoma, were confirmed to be other types of malignant tumors, and appropriate therapy was chosen. We could not confirm the main lesion of four cases.

Conclusion: EUS-FNA is useful for the diagnosis of suspected metastatic lymph nodes.



Utility of endoscopic ultrasound-guided fine-needle aspiration for malignant lymphoma

Koh Kitagawa, Kei Yane, Akio Katanuma, Kuniyuki Takahashi, Toshifumi Kin, Hideaki Koga, Kazumasa Nagai, Naohiro Komatsu, Masato Endo, Takehiko Koga, Hiroyuki Maguchi

Center for Gastroenterology, Teine Keijinkai Hospital

Objective: To evaluate the diagnostic accuracy of endoscopic ultrasound-guided fine-needle aspiration(EUS-FNA) for malignant lymphoma(ML).

Methods: We retrospectively examined 33 ML patients (men, 15; women, 18; median age, 67.5 years; range, 38-87 years) who underwent EUS-FNA between August 2008 and March 2016. Histological examination was performed; in addition, flow cytometry and fluorescence in situ hybridization (FCM/FISH) were performed, if possible, to investigate the subtype of ML.

Results: Needle passes were performed for a median of 5 times (range, 2-5) using 19- and 22-gauge needles for 22 (67%) and 11 (33%) patients, respectively. An adequate sample for histological examination was obtained in 30 (91%) patients, and FCM/FISH examination was possible and was performed in 24 patients. The overall diagnostic accuracy of EUS-FNA for ML was 82% (27/33). The subtypes of ML diagnosed by EUS-FNA were diffuse large B-cell lymphoma (DLBCL), 15; follicular lymphoma, 9; mucosa-associated lymphoid tissue lymphoma, 2; and indolent type B-cell lymphoma, 1. The subtype was diagnosed by histological examination in 9 of 27 patients and by FCM/FISH examinations in the other 18 patients. Six patients who were not diagnosed as having ML by EUS-FNA were diagnosed by surgical biopsy (DLBCL, 4; Hodgkin lymphoma, 2). No complications occurred with the procedure.

Conclusions: EUS-FNA for ML yielded a relatively high accuracy rate. FCM/FISH examination contributed to the improvement in diagnosing the subtype.

FREE PAPER : POSTER SESSION**Safety of early precut sphincterotomy: An analysis of consecutive 2,578 ERCP examinations by a single endoscopist.**

Chainarong Phalanusitthepha, Kannikar Laohavichitra, Asada Methasate, Attaporn Trakarnsanga, Varut Lohsiriwat, Jirawat Swangsri, Thawatchai Akaraviputh

Department of Surgery, Siriraj GI Endoscopy center, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok 10700, Thailand.

Background and aim: Precutting techniques is avoided to perform until unsuccessful to get deep biliary cannulation by standard technique. This study shows the results of early precut sphincterotomy done by a single experienced endoscopist.

Materials and Methods: From January 2003 to December 2011, 2,578 consecutive ERCPs examinations were performed by TA. 185 examinations were excluded due to diagnostic aim, pancreatic duct cannulations or failed to identify ampulla. 492 procedures with previous endoscopic sphincterotomy (EST) also were excluded from the study. 1,094 therapeutic biliary ERCPs were performed Precutting technique was early used after standard technique had failed (not more than 3 time of pancreatic injection or more than 10 minutes attempt by standard technique). 1,487 ERCP (74%) were performed by standard technique (Group A) and 524(26%) by early precutting technique (Group B). The characteristics of populations, success and complications were compared between two groups, frequency of each techniques of precut papillotomy were analyzed.

Results: The success rate in group A was significant lower than B (89% VS 99%) because of more difficulty of cannulation but it could increase overall success rate from 59% to 95% of first attempt cannulation. In group B, precutting was performed using the needle knife technique (66 %), septotomy technique (29%), Erlangen technique (0.3%) and combination of these techniques (4.7 %). Overall complications rate was 2.3% (procedure related complications: 2%) and was similar in the 2 groups. For each 200 consecutive ERCPs, the precutting rate ranged from 40.5-51 % of the first 600 ERCPs and became lower to 28-30% after that.

Conclusion: For the experience endoscopist, early precutting papillotomy should be safe an effective without increased risk of complications when compared to standard technique. The needed number to performed ERCP that could lowering the need of precutting rate should be over 600 cases.



Case Report: An 89-year-old Woman Presented Gastric Submucosal Tumor with Ulcer

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This 89-year-old woman visited our emergent department in December, 2015 due to general weakness and diffuses abdominal pain. Blood exam revealed severe anemia with Hb: 5.1 g/dL. EGD-endoscopy in the beginning showed one deep gastric ulcer about 2.5cm in size with hematin coating over angle and some food retained in antrum. Abdominal ultrasonography disclosed one 4.4cm mixed-echoic tumor mass over pancreatic tail region. CT scan discovered 4.7cm submucosal tumor in posterior wall of upper gastric body, GIST was suspected firstly. Metastatic nodules were also noted over regional lymph nodes, liver, and spleen. We performed trans-abdominal echo-guided biopsy for the main tumor over pancreatic tail/upper intra-abdominal area, and the pathology report showed poorly differentiated neuroendocrine carcinoma (G3). We performed the EGD-endoscopy again and found one giant submucosal tumor with deep ulcer extended from angle to high body, LC side to posterior wall. The endoscopic biopsy result also showed poorly differentiated neuroendocrine carcinoma. The final diagnosis was pancreatic tail cancer, poorly differentiated neuroendocrine carcinoma, with liver and spleen metastasis, cT4N1M1, stage IV. She received hospice care since then and discharged after one month of hospitalization. She passed away in March, 2016 in our hospice ward.

FREE PAPER : POSTER SESSION**Usefulness of short-type balloon-assisted endoscopes and metallic stents with a small-diameter delivery system for malignant biliary obstruction with surgically altered anatomy**

Kazunaga Ishigaki¹, Hirofumi Kogure², Atsuo Yamada², Hiroyuki Isayama², Gyotane Umefune², Dai Akiyama², Kaoru Takagi², Takeo Watanabe², Rie Uchino², Naminatsu Takahara², Suguru Mizuno², Saburo Matsubara², Natsuyo Yamamoto², Yousuke Nakai², Minoru Tada² and Kazuhiko Koike²

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[objective]

This study was designed to evaluate the usefulness of endoscopic metallic stenting using short-type balloon-assisted endoscopes for MBO with surgically altered anatomy.

[methods]

Between January 2012 and February 2016, short-type double-balloon or single-balloon endoscope-assisted ERCP for MBO was performed in 16 patients with surgically altered anatomy. SEMS with a small-diameter delivery system (5.7Fr-7.2Fr) were used. Technical success rate, clinical success rate, adverse events, and long-term outcomes were evaluated.

[results]

A total of 16 patients (12 male, a median age of 68 years) were enrolled. Technical success rate and clinical success rate were 94% and 88%, respectively. Multiple SEMS were placed in 5 patient. Early adverse events (<30 days) occurred in 2 patients (13%); mild pancreatitis in 2. The median follow-up period was 165 days, the median TRBO was 272 days, and median overall survival was 255 days. The causes of RBO were biliary sludge (n = 4), tumor ingrowth (n = 2), tumor overgrowth (n = 1), and kinking (n = 1). All 8 patients required re-intervention: additional stent-in stent placement of covered SEMS in 2 patients, PTBD in 1 patient, plastic stent in 3 patients, and balloon cleaning alone in 2 patients. Internal biliary drainage could be maintained in 12 patients (75%) until death or the end of follow-up.

[conclusion]

Endoscopic metallic stenting using short-type balloon-assisted endoscopes for MBO with surgically altered anatomy is technically feasible, safe, and effective, and can contribute to the QOL improvement.



The outcome of covered self-expandable metallic stent in patients with pancreatic cancer receiving FOLFIRINOX or Gemcitabine+nab-PTX

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Department of Gastroenterology, Cancer Institute Hospital of Japanese Foundation for Cancer Research

Background/Aim: Standard first-line chemotherapy for patients with unresectable pancreatic cancer changed from Gemcitabine to FOLFIRINOX or Gemcitabine+nab-PTX. Although this intensive chemotherapy is well-tolerated in patients with biliary stent placement, the outcome of biliary stent by each chemotherapy has not been reported. We evaluated the recent outcome of covered self-expandable metallic stent with unresectable pancreatic cancer.

Methods: Medical records were retrospectively reviewed for consecutive patients with unresectable pancreatic cancer, treated by FOLFIRINOX or Gemcitabine+nab-PTX (group A), and Gemcitabine or S-1 (group B). They underwent placement of Niti-S SUPREMO (Tae Woong Medical®) between April 2011 and September 2015. Background characteristics, procedure-related complications, rate of cholangitis and time to stent dysfunction were compared between the groups. The time to stent dysfunction was calculated as the interval between stent insertion and its dysfunction.

Results: Sixty-five patients were analyzed (24 vs.41 in group A vs. group B, respectively). There were no significant differences in patient characteristics except for Albumin (3.6g/dl vs. 3.2g/dl, $p=0.004$) and neutrophil/lymphocyte rates (2.9 vs. 4.1, $p=0.04$). During chemotherapy, febrile neutropenia was seen in two patients only in Group A (8.3%), one of whom developed cholangitis and underwent emergent ERCP. Overall survival by Kaplan-Meier method were 14.8 months vs. 5 months ($p=0.0001$ by log-rank test) and median time to stent dysfunction were 8.7 months vs. 12.7 months ($p=0.09$). The cumulative incidence of recurrent biliary obstruction (36.3 vs. 12.7, 71.1 vs. 23.2, at 6 and 12 months, $p=0.01$ by Gray's test) were significantly higher in group B.

Conclusion: Although adequate management of cholangitis enables to continue chemotherapy in patients with covered self-expandable metallic stent placement, the risk of biliary event may increase in patients receiving intensive chemotherapy such as FOLFIRINOX or Gemcitabine+nab-PTX.

FREE PAPER : POSTER SESSION**Effectiveness and safety of the small J-Tipped guidewire in treating the pancreatic duct**

Sumio Hirose, Mitsuharu Fukasawa, Tadashi Sato, Shinichi Takano, Hiroko Shindo, Ei Takahashi, Yoshimitsu Fukasawa, Satoshi Kawakami, Nobuyuki Enomoto

Objective

Since maneuvering the guidewire in the pancreatic duct is more difficult than in the bile duct, and there is a risk of post-ERCP pancreatitis (PEP), a reliable and safe method for a GW insertion into the pancreatic duct is desired to be established. We, therefore, investigated the usefulness and safety of newly developed small J-tipped guidewire (SJGW) in treatment of the pancreatic duct.

Methods

Fifty patients who had received pancreatic duct treatment using an SJGW (SJ group) as the first GW and 100 patients treated with an angle GW (AGW) (A group), serving as controls, were retrospectively compared. For cases in which the first GW (SJGW or AGW) insertion was failed, a hydrophilic GW was used instead. In both groups, we examined (a) the success rate of the first GW insertion and procedure completion rate, (b) the incidence of PEP.

Results

(a) The success rate of the GW insertion was 82% and 41%, and procedure completion rate was 80% and 39% in the SJ group and A group, respectively, demonstrating both rates being significantly higher for the SJ group ($P < 0.001$). Multivariate analysis of factors related to the procedure completion rate revealed that the pancreatic duct tortuosity, stenosis, and use of the SJGW were significant factors. (b) The PEP incidence was 8% in the SJ group and 11% in the A group, indicating no significant difference between the two groups. PEP was severe in 3%, moderate in 2%, and mild in 6% in the A group, whereas all cases in the SJ group were mild.

Conclusion

The SJGW was useful as the first GW in treating the pancreatic duct. Although the PEP incidence did not significantly differ between the two groups, no cases of moderate or severe pancreatitis were observed in the SJ group.



Short-type single-balloon enteroscope-assisted ERCP in postsurgical altered anatomy: Factors associated with procedural failure

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Objective:

Short-type Single-balloon enteroscope (short SBE)-assisted ERCP is a promising alternative treatment in postsurgical altered anatomy. However, it is technically demanding, and factors associated with its technical difficulty have not yet been clarified. This study aimed to examine the procedural success rate of short SBE-assisted ERCP and factors associated with procedural failure.

Methods:

Between June 2011 and November 2015, 117 consecutive patients (203 procedures) with surgically altered anatomy underwent ERCP using prototype short SBEs. The surgical methods included Billroth II (B-II) gastrectomy in 13 patients, pancreaticoduodenectomy (PD) in 51 patients, Roux-en-Y (R-Y) gastrectomy in 25 patients, and hepaticojejunostomy (HJ) with R-Y in 28 patients. We retrospectively examined the procedural success rate of short SBE-assisted ERCP and identified factors associated with procedural failure.

Results:

The overall procedural success rate was 81.7% (95% confidence interval [CI], 75.8%-86.8%). According to the structural anatomy, the procedural success rate was 95% (19/20) in B-II gastrectomy, 75.9% (60/79) in PD, 88.8% (40/45) in R-Y gastrectomy, and 79.7% (47/59) in HJ with R-Y. Multivariate analyses revealed that R-Y with liver resection (OR 5.06, 95% CI 1.59-16.1), pancreatic indication (OR 6.09, 95% CI 2.11-17.6), first ERCP attempt (OR 6.32, 95% CI 2.24-17.9), and without transparent hood (OR 5.17, 95% CI 1.53-17.5) were independent risk factors for procedural failure.

Conclusions:

Short SBE-assisted ERCP appears to be effective in postsurgical altered anatomy. R-Y with liver resection, pancreatic indication, first ERCP attempt, and without transparent hood were identified as significant risk factors for procedural failure.

FREE PAPER : POSTER SESSION**Endoscopic ultrasound-guided antegrade treatment of bile duct stone in patients with surgically altered anatomy: a multicenter retrospective cohort study**

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5. Division of Gastroenterology, Department of Internal Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea

Introduction: ERCP for management of bile duct stone (BDS) in patients with surgically altered anatomy is challenging. EUS-guided antegrade treatments (AG) for BDS was developed, but have not been well studied yet.

Aims: To evaluate the feasibility and safety of EUS-AG for BDS in patients with SAA as a multicenter retrospective cohort study.

Methods: A retrospective database analysis identified patients with surgically altered anatomy who underwent EUS-AG for the management of BDS at 4 academic centers. Basic characteristics of the patients and details of the procedures were determined and the success rates and adverse event rates were evaluated.

Results: EUS-AG for BDS was attempted in 29 patients (21 males, median age of 77). Surgically altered anatomies were gastrectomy with Roux-en-Y reconstruction in 19, gastrectomy with Billroth II reconstruction in 3, gastrectomy with jejunal interposition in 2, pancreatoduodenectomy with Child reconstruction in 4, and bile duct resection with hepaticojejunostomy in 1. Successful BDS removal was achieved in 72% (21/29) of patients. Reasons for failed EUS-AG were unsuccessful bile duct puncture in 6, unsuccessful guidewire manipulation in 1, and unsuccessful stone removal using a retrieval balloon in 1. Adverse events occurred in 5 patients (17%): abdominal pain in 2, bile peritonitis in 1, cholecystitis in 1, and elevation of C-reactive protein in 1 patient. All adverse events were successfully managed conservatively.

Conclusion: EUS-AG for BDS was a feasible and safe alternative in patients with surgically altered anatomy, although further evaluation and development of dedicated devices are needed.



Predictors of pain response in patients undergoing endoscopic ultrasound-guided neurolysis for abdominal pain caused by pancreatic cancer

Kosuke Minaga¹, Masayuki Kitano¹, Shunsuke Omoto¹, Tomohiko Matsuda¹, Ken Kamata¹, Takeshi Miyata¹, Kentaro Yamao¹, Mamoru Takenaka¹, Masatoshi Kudo¹

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Objective: Interventional endoscopic ultrasound (EUS)-guided procedures such as EUS-guided celiac ganglia neurolysis (EUS-CGN) and EUS-guided broad plexus neurolysis (EUS-BPN) were developed to treat abdominal cancer-associated pain; however, these procedures are not always effective. The aim of this study was to explore predictors of pain response in EUS-guided neurolysis for pancreatic cancer-associated pain.

Methods: This was a retrospective analysis of 112 consecutive patients who underwent EUS-BPN in our institution. EUS-CGN was added in cases of visible celiac ganglia. The neurolytic/contrast spread area was divided into six sections and evaluated by post-procedural computed tomography scanning. Pain intensity was assessed using a visual analog scale (VAS), and a decrease in VAS scores by 3 points after neurolysis was considered a good pain response.

Results: A good pain response was obtained in 77.7% and 67.9% of patients at 1 and 4 weeks, respectively. In the multivariable analysis of these patients, the combination method (EUS-BPN plus -CGN) was a significant positive predictive factor at 1 week (odds ratio = 3.69, $p = 0.017$) and 4 weeks (odds ratio = 6.37, $p = 0.043$). The numbers of neurolytic/contrast spread areas (mean \pm SD) were 4.98 ± 1.08 and 4.15 ± 1.12 in patients treated with the combination method and single method, respectively ($p < 0.001$).

Conclusion: EUS-BPN plus -CGN was a predictor of a good pain response in EUS-guided neurolysis for pancreatic cancer-related pain. The larger number of neurolytic/contrast spread areas may lead to better outcomes in patients receiving combination treatment.

FREE PAPER : POSTER SESSION**Feasibility of unilateral-flap stent in treatment of benign pancreatic ductal stricture****Bhanthumkomol Patommatat**

Gastrointestinal unit, Thammasat university hospital, Thailand

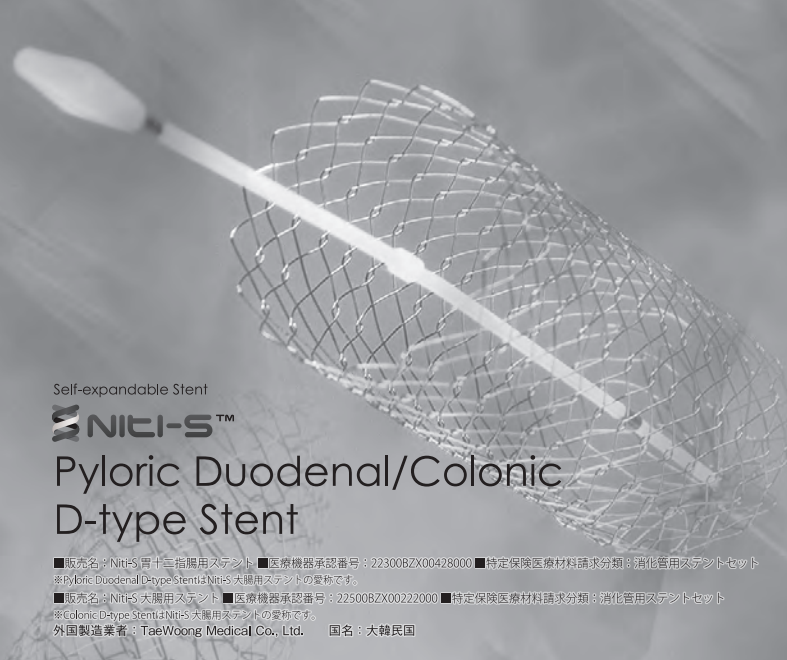
Objective:Endoscopic placement of plastic stent has been adopted as initial treatment in chronic pancreatitis with main pancreatic duct (MPD) stricture, and stent exchange is done as either regular or on-demand basis. Stent fracture while attempting removal is one of the complication during stent exchange. Use of unilateral-flap (UF) stent in this particular population has never been reported.

Methods:During 2011 –2015, nine patients with chronic pancreatitis and MPD stricture who were treated by UF stent were identified. Patient characteristics, stent characteristics, outcome and complication were collected retrospectively.

Results: Among nine patients, 11 endoscopic treatment sessions of UF stent (stent deployment, exchange, and removal) which comprised of 53 individual UF stent placements were found. Median number of exchange per session was 4 (range 1-20). Technical success rate was 100 percent. One UF stent (size between 7-10Fr) was placed per each procedure; 90 percent of stents were exchange on regular basis of 1-6 month interval. Five UF stents need to be exchanged prematurely due to stent obstruction causing pancreatitis (n=2), outward stent migration with symptom (n=2), and concurrent cholangitis (n=1). No stent fracture during removal were found. Among eleven endoscopic treatment sessions with UFS, six achieved goal of treatment indication, three changed to metallic stent, and two were loss to follow-up.

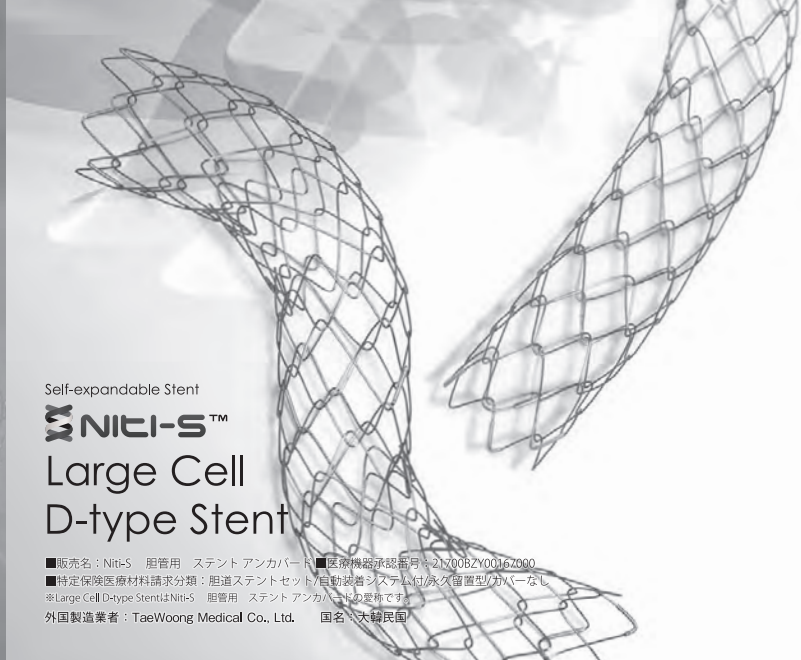
Conclusion:UF stent placement in benign MPD stricture due to chronic pancreatitis is feasible and effective. Stent removal during exchange period is unchallenging without stent fracture.





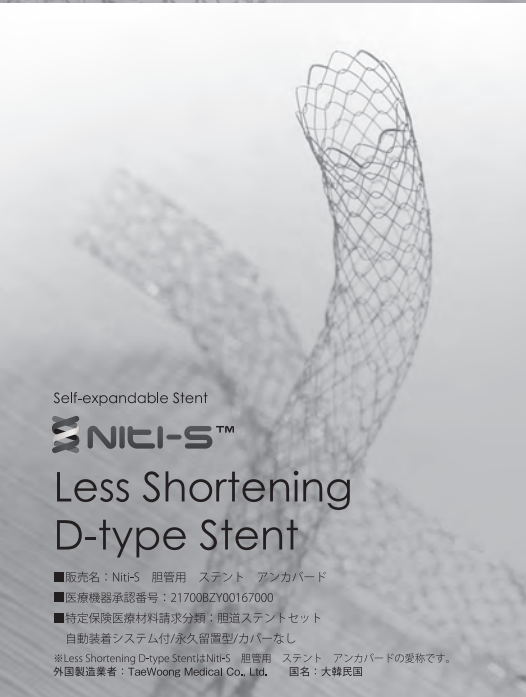
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 ■JMDNコード：70164020
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 ■医療機器承認番号：224ABBZX00045000
 ■特定保険医療材料：胆道結石除去用カテーテルセット(2) 経内視鏡バルーンカテーテル③十二指腸乳頭拡張機能付き
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- 高追従挿入部とカーブトラッキング搭載で術後腸管挿入がよりスムーズに。
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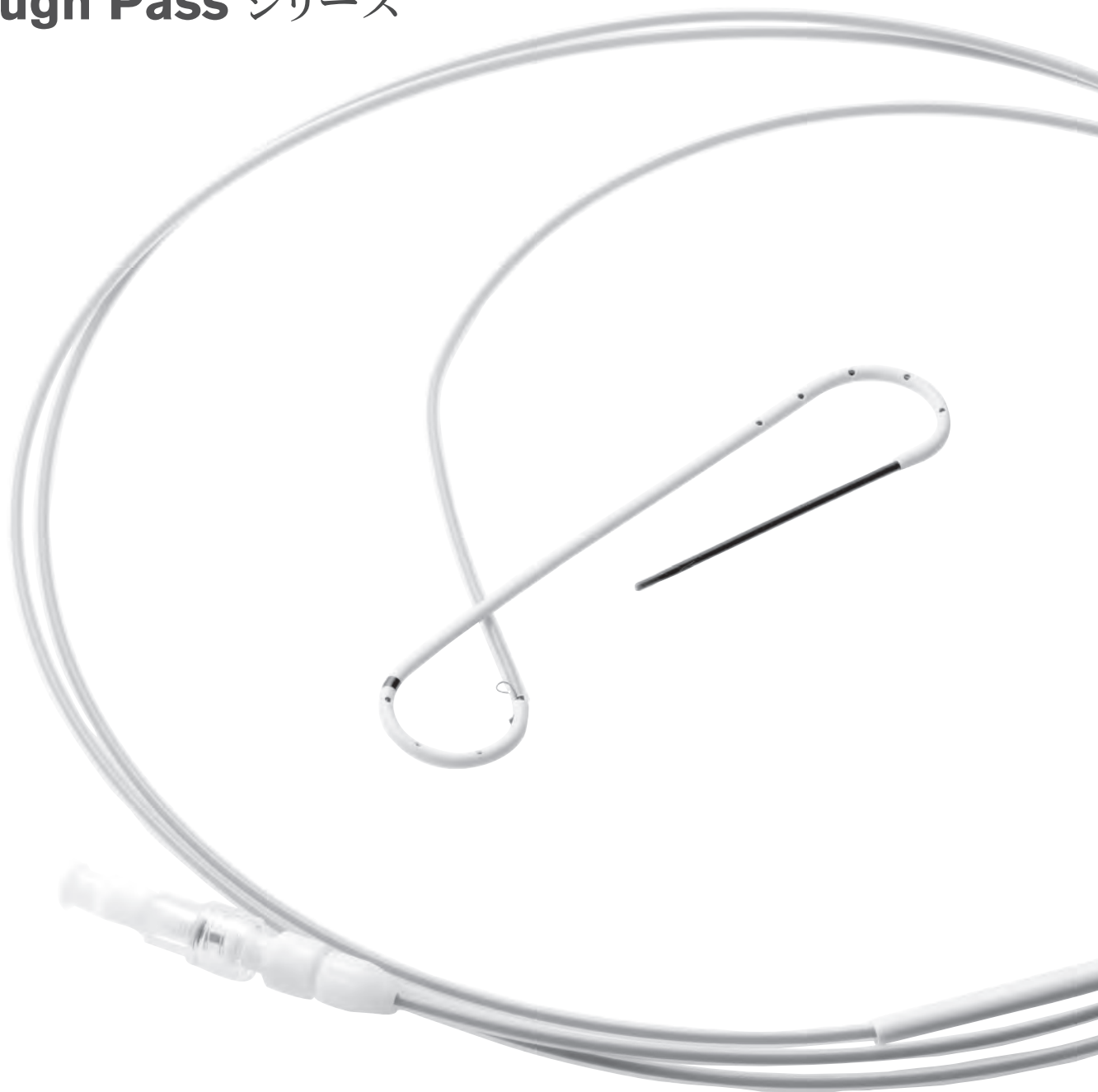
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tube stent delivery system
Through Pass DoublePit

唯一の二次元形状付き一体型チューブステント

 **GADELIUS**

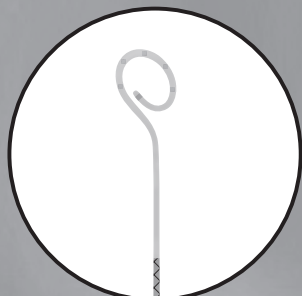
販売元
ガデリウス・メディカル株式会社

販売名 : CX-T ステント
一般的名称 : 胆管用ステント
医療機器承認番号 : 21600BZZ00031000

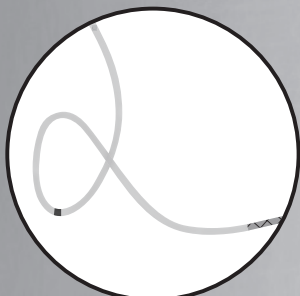
NB-Braid

Naso-Biliary Drainage Catheter

■ ブレード構造により「キンクに対する復元性」を高めたドレナージカテーテルです。



ピッグテール



α ループ

- 販売名：NB-ブレード
- 医療機器認証番号：226AFBZX00148000
- 医療機器分類：管理医療機器
- 一般の名称：短期的使用胆管-挿管用カテーテル

【製造販売元】 **PIOLAX** 株式会社 パイオラックス メディカル デバイス
〒240-0025 神奈川県横浜市保土ヶ谷区狩場町179番地

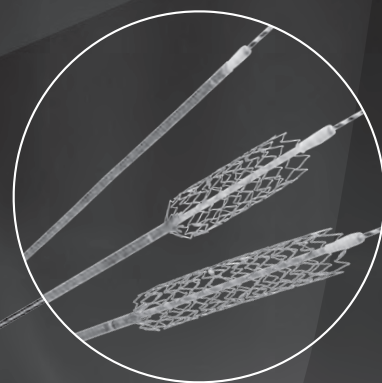
【商品に関する問い合わせ先】
〒245-0053 神奈川県横浜市戸塚区上矢部町2265-3
TEL:045-517-9740 FAX:045-811-8560

BILERUSH SELECTIVE

内視鏡用胆管ステント

■ 超細径5.7Frデリバリーシステムを採用したレーザーカットステントです。

- 販売名：バイラッシュセレクトティブ
- 医療機器認証番号：22600BZX00289000
- 医療機器分類：高度管理医療機器
- 一般の名称：胆管用ステント



【製造販売元】 **PIOLAX** 株式会社 パイオラックス メディカル デバイス
〒240-0025 神奈川県横浜市保土ヶ谷区狩場町179番地

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TEL:045-517-9740 FAX:045-811-8560

消化器内視鏡領域の胆管拡張バルーンに 「カネカ」のバルーンカテーテルが登場。

血管領域で多くの実績と信頼性を持つ「カネカ」バルーンカテーテル。
ここでも威力を発揮します。



1 ロープロファイル

先端チップからバルーン部の細径化

2 幅広いラインナップ

外径φ3~18mmと有効長1800と2500mmの14種類



3 0.025インチ ガイドワイヤー対応

管理医療機器

販 売 名: カネカ胆管拡張バルーン REN
医療機器認証番号: 227ADBZX00079000
保険医療材料請求区分: 胆道結石カテ・EPBDバルーン

【製造販売元】

株式会社 **カネカ**

〒530-8288 大阪市北区中之島2-3-18
TEL.06-6226-5256

【販売元】

株式会社 **カネカメディックス**

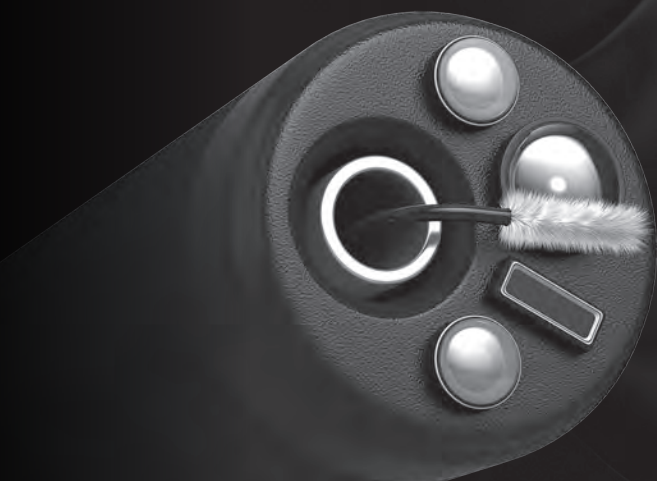
<http://www.kaneka-med.jp>

東京事業所 〒140-0002 東京都品川区東品川2-5-8(天王洲パークサイドビル) TEL.03-5461-3080
大阪事業所 〒530-8288 大阪市北区中之島2-3-18(中之島フェスティバルタワー) TEL.06-6226-4505

カネカディスプレイザブル内視鏡レンズクリーニングブラシ

MIGAKY-N

自然開口向け単回使用内視鏡用非能動処置具



**ESD時の脂肪汚れ、
大腸検査時の糞便汚れを解消。**

販売名: カネカディスプレイザブル内視鏡レンズクリーニングブラシ
医療機器届出番号: 27B1X00034000004

カネカ牽引用クリップ

ICHIGAN

内視鏡用軟性把持鉗子

**クリップとテフロンフロスを一体化した
牽引用クリップ。**



販売名: カネカ牽引用クリップ
医療機器届出番号: 27B1X00034000005

製造販売元

株式会社 **カネカ**

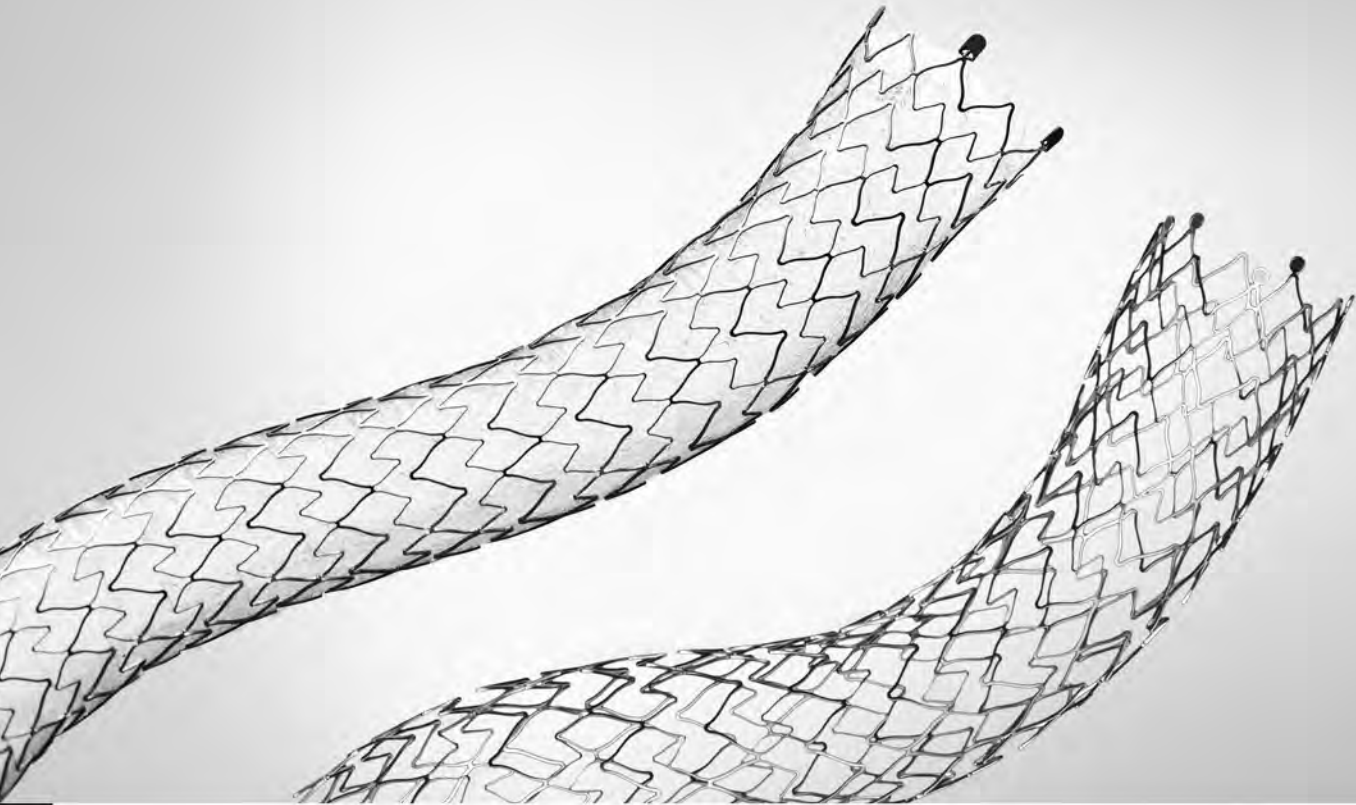
〒530-8288 大阪市北区中之島 2-3-18
TEL. 06-6226-5256

販売元

株式会社 **カネカメディックス**

<http://www.kaneka-med.jp/>

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X-SUIT NIR®

New Covered X-Suit NIR® Biliary Metallic Stent.

NIRflex™ cell design

Both stents have the NIRflex™ cell design, with alternating narrow strut rings and wide strut rings, which provides them with excellent conformability and significant radial force.

Unique double-layer covering

The metal struts of the covered X-Suit NIR® are encapsulated by a double-layer covering. Both tumor ingrowth and sludge deposition are effectively prevented by an inner silicone and outer polyurethane covering.



NIRflex™ cell design



Double-layer covering

OLYMPUS

Your Vision, Our Future

Endo**Therapy**

EUS-FNA Evolution, More Advanced



Manufactured by OLYMPUS MEDICAL SYSTEMS CORP.
Product Name: Single Use Aspiration Needle NA-U200H Regulatory Approval Number: 227ABBZX00105000

A High-Performance Aspiration Needle That Is Guiding the Evolution of EUS-Guided FNA to the Next Level

- Accessibility: Helps targeting accuracy for hard-to-reach lesions
- Punctuability: Menghini type tip with sharp edges around it helps physicians to puncture smoothly
- Yield performance: Both the needle with and without a side hole are selectable according to your preference
- Visibility: An echogenic dimple finish helps enhance ultrasound visibility for precise targeting
- Handle maneuverability: Improved handle support smooth needle operation

EZ Shot 3 Plus

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www.olympus.com



**We strive to improve human health
and contribute to a society
enriched by smiles**



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Mauna Kea
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SGI 2016

The 10th Meeting of Society of Gastrointestinal Intervention

October 7 - 8, 2016 | The-K Hotel Seoul, Seoul, Korea

Important Dates

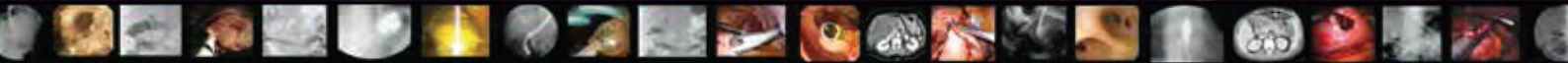
Abstract Submission Deadline August 7, 2016

Early Registration Deadline August 29, 2016

ABOUT SGI

The Primary Goals of the SGI are to:

- 1 Maximize Interdisciplinary Collaboration**
Establish a comprehensive GI intervention network between endoscopists, interventional radiologists, and GI surgeons for multidisciplinary collaboration and interaction
- 2 Share Technological Innovation**
Inform, promote and globalize outstanding technological innovations of each speciality
- 3 Foster Future Specialists**
Aid young brilliant doctors to make an early debut on the international stage through SGI
- 4 Become a Role Model**
Become a role model as a unique international meeting in the field of GI intervention



www.sgiw.org

SGI Invitation

Dear friends and colleagues,

We are delighted to invite you to the 10th annual meeting of the Society of Gastrointestinal Intervention (SGI) to be held in Seoul, Korea, on October 7-8, 2016.

On the occasion of its 10th anniversary, the scientific program of SGI 2016 will consist of the most fruitful lectures providing an environment to interact and debate about the treatment methods used in the field of gastroenterology, interventional radiology, and surgery. We have added innovations to last year's program, including a compact live demonstration session, which is one of distinctive features of the SGI. We are proud to state that our internationally and nationally renowned invited speakers will both share their expertise in the areas of new, existing, and undiscovered scientific knowledge and medical technologies, but equally focus upon practical tips and tricks which attendees will be able to apply in their practices.

The SGI Edelweiss Scholarship Program which has benefited young doctors who come from developing countries will continue this year. We encourage you to submit your abstracts for potential oral or poster presentations. We believe that this landmark SGI meeting will assure all attendees the benefits of collegial collaboration and networking, advanced knowledge, fellowship, and a great time visiting Korea during one of its most beautiful seasons.

We very much look forward to welcoming you all to Seoul.

Yours sincerely,



Ziv J. Haskal
President SGI 2016



Yun Hwan Kim
Secretary General SGI 2016



Young Deok Cho
Vice Secretary-General SGI 2016

SGI Scientific Highlights

- Plenary Lecture: Past, Present and Future of SGI
- Esophageal Stents: Clinical and Experimental Applications
- The Best Therapeutic Solution for Post-transplantation Biliary Strictures
- Cutting Edge of the Intervention for the Malignant Colonic Obstruction
- Management for Postoperative Complication
- Difficult-to-treat HCC: Interventional Approach
- Recent Progress in the Management of Esophageal Diseases
- Biliary Drainage: Paradigm Shift or Oldies Are Good?
- EUS-guided Intervention in Special Situations
- Optimal Management for Pancreatitis Related Complications
- Recent Advance in the Management of the Small Intestinal Hemorrhage
- Gastrostomy and Jejunostomy: Various Approaches
- Live Demonstration: India, Hong Kong, Japan and Korea

SGI is the unique society of multidisciplinary communication among endoscopists, radiologists and surgeons.

- Multidisciplinary
- Collaboration
- Unique Expertise
- World-Leading Vision