

The 27th JGES-ESGE Joint Symposium

Progress in diagnostic and therapeutic EUS

5月26日(金) 9:00 ~ 10:30 第11会場(グランドプリンスホテル新高輪 3階 天平)

Moderators	Third Department of Internal Medicine, University of Toyama Department of Gastroenterology; Hôpital Nord, France	Ichiro Yasuda Marc Barthet
IS01-1.	Recent development of EUS-guided hepaticogastrostomy Endoscopy Center, Osaka Medical and Pharmaceutical University	Takeshi Ogura
IS01-2.	EUS-antegrade treatment for biliary diseases in patients with surgically altered anatomy First Department of Internal Medicine, Gifu University Hospital	Takuji Iwashita
IS01-3.	Long-term clinical outcomes of EUS-guided pancreatic duct drainage by using a dedicated plastic stent Department of Gastroenterology and Hepatology, Tokyo Medical University, Tokyo, Japan	Shuntaro Mukai
IS01-4.	EUS-guided ablation of pancreatic lesions Department of Gastroenterology; Hôpital Nord, France	Marc Barthet
IS01-5.	EUS-guided gastroenterostomy (EUS-GE) for malignant gastric outlet obstruction Hospital Universitario Rio Hortega, Valladolid, Spain	Manuel Perez
IS01-6.	The role of AI in diagnostic EUS III. Medizinische Klinik, Universitätsklinikum Augsburg Germany	Dominik Schulz

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Ichiro Yasuda
Marc Barthet



IS01-1 Recent development of EUS-guided hepaticogastrostomy

Endoscopy Center, Osaka Medical and Pharmaceutical University
○ Takeshi Ogura

Malignant biliary obstruction is usually treated under ERCP guidance. However, ERCP could be challenging if patients are complicated with malignant duodenal obstructions or a surgically altered anatomy such as a Roux-en Y anastomosis. Percutaneous transhepatic biliary drainage (PTBD) has been conventionally attempted as an alternative to bile duct drainage. In addition, biliary drainage can proceed under balloon enteroscopy when patients have a surgically altered anatomy. However, although these procedures have clinical benefits, disadvantages include self-tube removal or cosmetic issues after PTBD, prolonged procedures and risk of perforation in enteroscopy. EUS-BD via transhepatic or transduodenal approaches has recently emerged. Among these approaches, EUS-HGS might have the broadest indication because it can be applied even when patients are complicated with malignant duodenal obstruction. Initial EUS-HGS procedures were technically challenging and associated with critical adverse events such as stent migration. However, technical tips for EUS-HGS might have reached maturity due to device and technical developments such as liver impaction, moving scope, double guidewire, or intrascopic channel release technique. Moreover, novel devices such as 0.018-inch guidewire, fine gauge electrocautery dilator, or ultra-tapered mechanical dilator have been available. Therefore, EUS-HGS using 22G needle may open a new window. However, the rate of adverse events is not low despite many preventive efforts.

In my presentation, technical tips and novel devices will be presented with several Videos and literature review.

IS01-3 Long-term clinical outcomes of EUS-guided pancreatic duct drainage by using a dedicated plastic stent

Department of Gastroenterology and Hepatology, Tokyo Medical University, Tokyo, Japan

○ Shuntaro Mukai, Takayoshi Tsuchiya, Takao Itoi

[Background] EUS-guided pancreatic duct drainage (EUS-PD) including rendezvous technique has been reported as an alternative treatment for recurrent pancreatitis. We have conventionally used a dedicated single pigtail plastic stent for EUS-PD and have reported its efficacy. Herein, we evaluated its long-term efficacy.

[Patients and Methods] 64 patients (mean 61 years) were treated by EUS-PD at our institution and short-term and long-term clinical outcomes were evaluated.

[Results] The dedicated plastic stent was placed successfully in 55 cases [85.9% (55/64), rendezvous technique 69.2% (9/13), antegrade stenting 90.1% (46/51)]. Procedure related early adverse events occurred in 20.3% (13/64, pancreatitis 4, bleeding 2, abdominal pain 7). One case of severe bleeding required hemostasis with coil embolization. No early stent migration or dislocation was not observed. 45 cases were followed up for a median of 5.2 years. Long-term complete resolution of symptoms (no recurrent pancreatitis) was achieved in 41 cases (clinical success rate: 91.1%). Of the 41 cases, 14 cases were stent-free after about one year of stent exchange, including 8 cases of spontaneous stent dislodgement without any symptoms, and the remaining 19 cases are continuing regular stent exchange (every 6 months or year) because of patient's desire. No late adverse event during long-term follow-up other than spontaneous stent dislodgement was observed.

[Conclusion] EUS-PD by using a dedicated plastic stent allows good long-term clinical outcomes for recurrent pancreatitis.

IS01-2 EUS-antegrade treatment for biliary diseases in patients with surgically altered anatomy

First Department of Internal Medicine, Gifu University Hospital
○ Takuji Iwashita, Shinya Uemura, Masahito Shimizu

Endoscopic retrograde cholangiopancreatography (ERCP) is widely used in the treatment of biliary diseases as a less invasive method in patients with normal upper gastrointestinal anatomy. However, percutaneous transhepatic biliary drainage (PTBD) or surgery was generally and traditionally performed for biliary diseases in patients with surgically altered anatomy, since the longer distance to the biliary orifice has made ERCP technically challenging. Recently, the development of balloon-endoscopy (BE) enabled endoscopes to reach the deep small intestine and has opened up a new procedure, BE-assisted ERCP (BE-ERCP). BE-ERCP allowed performing ERCP even in surgically altered anatomy cases. More recently, endoscopic ultrasound-guided antegrade treatment (EUS-AG) has emerged as another endoscopic treatment method for biliary diseases. In EUS-AG, the biliary system is approached from the upper intestine and a temporal fistula is created between the biliary system and the intestine. A treatment is then performed through the fistula for biliary diseases, such as malignant biliary obstruction, biliary stones, or benign strictures. Here, I want to present the status of EUS-AG for biliary diseases in patients with surgically altered anatomy.

IS01-4 EUS-guided ablation of pancreatic lesions

Department of Gastroenterology, Hôpital Nord, France

○ Marc Barthet

EUS-guided treatments for focal tumor lesions has been developed since 20 years using at onset of the technique mainly local and guided alcohol injection. Pancreatic tumors are the most assessed targeted lesions for EUS treatment because of their accessibility. Ethanol injection (EI) is the most popular one associated or not with Paclitaxel in case of pancreatic cystic neoplasms (PCN). Intratumoral ethanol injection induces coagulation necrosis of the neoplastic tissue. EUS-guided RFA has recently emerged as a new technique for pancreatic tumor ablation, mainly for neuroendocrine tumors, pancreatic cystic neoplasms, or pancreatic adenocarcinoma. RFA is acting by increasing the local temperature ranging from 60°C to 100°C in order to create irreversible cellular damages and coagulative necrosis.

Safety is a crucial and major point for spreading this technique. Ethanol injection associated or not with paclitaxel has AEs rate ranging between 0 to 23.3%. EUS-guided RFA has about 10% morbidity rate in prospective studies and meta-analyses (1,2,4,9,10,52). EUS-RFA seems to be associated with a lower risk of pancreatitis.

Overall success rates for EI in pNET is 79.8% (60-100%), including 99 cases in 23 studies. Most of the treated lesions had a diameter < 2cm, the effectiveness was 60%. Overall, EUS-RFA for pNETs was performed in 113 patients and 21 series. Complete disappearance of pNETs was observed in 99 patients (87.6%). The role of contrast-enhanced harmonic EUS is still discussed. The efficiency of EUS-RFA in PCN seems to be lower than for pNETs. 36 patients with PCN (17 IPMN, 8 mucinous cystadenomas, 12 serous cystadenoma) have been enrolled in three series with a follow-up less than 13 months. At one year, IPMN completely disappeared in 64.7% of the cases versus only 25% of mucinous cystadenomas. Of note, all treated mural nodules disappeared completely, even when cyst resolution did not occur.

Therefore EUS-guided ablation for pancreatic lesions is a safe and efficient alternative to surgery mainly with EUS-guided for pNET with RFA.

IS01-5 EUS-guided gastroenterostomy (EUS-GE) for malignant gastric outlet obstruction

Hospital Universitario Rio Hortega, Valladolid, Spain

○ Manuel Perez

Malignant gastric outlet obstruction (GOO) often occurs when curative surgery is not possible. Surgical gastrojejunostomy (SGJ) is used for palliation. Duodenal self-expandable metal stents (SEMS) are used in poor operative candidates. EUS-guided gastroenterostomy (EUS-GE) with lumen-apposing metal stents (LAMS) has emerged as an alternative to SGJ or SEMS. Preliminary data suggest that EUS-GE combines SEMS minimal invasiveness with SGJ superior patency.

EUS-GE involves LAMS placement under EUS and fluoroscopy from the stomach into the small bowel, bypassing the GOO site. There are several technical variations of EUS-GE. Luminal distention prior to LAMS insertion is a critical step of prevailing variants. Double balloon tube (DBT) occlusion effectively achieves this. However, DBT is not commercially available and is relatively challenging. A standard nasobiliary drain as a parallel enteric tube (PET) appears a simpler approach. However, the technical aspects of PET-assisted EUS-GE are not currently standardized.

Further procedural standardization and data from ongoing trials are soon expected to lead to more widespread dissemination of EUS-GE, hopefully resulting in improved clinical outcomes for GOO patients.

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IS01-6 The role of AI in diagnostic EUS

III. Medizinische Klinik, Universitätsklinikum Augsburg, Germany

○ Dominik Schulz, Helmut Messmann

Artificial Intelligence (AI) has quickly found widespread use in endoscopic diagnostic imaging and research. While there are already commercial solutions available from multiple vendors for deep learning aided polyp detection in colonoscopy, until recently, literature on machine learning in endosonographic ultrasound (EUS) was rather sparse. This is most probably due to the overall lower number of EUS images available. However, in the last two years, literature on deep learning in EUS more than quadrupled, demonstrating the growing interest and the huge potential of this technique. AI could be beneficial in the detection and differentiation of pancreatic masses and cysts, autoimmune pancreatitis, gastrointestinal stromal tumors, subepithelial, esophageal- and gallbladder lesions and more. In this talk, we will give an overview of the published research so far in order to find AIs most promising applications in diagnostic EUS.