

Open Access

Highlights of Pancreatobiliary Endoscopy in International Digestive Endoscopy Network 2012: How Much Has It Advanced?

Seok Ho Dong

Division of Gastroenterology and Hepatology, Department of Internal Medicine, Kyung Hee University School of Medicine, Seoul, Korea

The pancreatobiliary organ is composed of one of the most complicated structures and complex physiological functions among other digestive organs in our body. This is why endoscopic procedure in pancreaticobiliary system requires rather complicated techniques. In International Digestive Endoscopy Network (IDEN) 2012, many interesting pancreatobiliary endoscopy related topics were presented. Basic procedures like endoscopic papillary balloon dilation (EPBD), advanced techniques like endoscopic necrosectomy, prevention and management of post-ERCP pancreatitis, and spyglass system are reviewed in this highlight summary.

Key Words: Endoscopic retrograde cholangiopancreatography; Common bile duct stones; Endoscopic necrosectomy; Spyglass

INTRODUCTION

In IDEN 2012, many diverse experiences associated with basic procedures to advanced techniques of endoscopic retrograde cholangiopancreatography (ERCP) were highlighted in great enthusiastic lectures by world renowned experts. Interesting cases entitled "Interesting cases in pancreatobiliary endoscopy" were introduced in video forum. In this highlight summary of interesting presentations, I will present a summarized review about basic procedures of ERCP like balloon dilation for common bile duct (CBD) stones, advanced techniques like endoscopic necrosectomy for necrotizing pancreatitis, recently proposed management for the prevention of post-ERCP pancreatitis, and SpyGlass direct visualization system through which we can directly observe the CBD and pancreatic duct.

Received: August 2, 2012 **Revised:** August 3, 2012

Accepted: August 3, 2012

Correspondence: Seok Ho Dong

Division of Gastroenterology and Hepatology, Department of Internal Medicine, Kyung Hee University School of Medicine, 26 Kyungheedae-ro, Dongdaemun-gu, Seoul 130-701, Korea

Tel: +82-2-958-8200, **Fax:** +82-2-968-1848, **E-mail:** gidrdong@hanmail.net

© This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

IS ENDOSCOPIC PAPILLARY LARGE BALLOON DILATION (EPLBD) ALWAYS SAFE?

EPLBD is easy to use and effective for the removal of common bile duct (CBD) stones, but still debates exist on safety issue. Since EPLBD requires only a small endoscopic sphincterotomy (EST) or none at other occasions, EPLBD is generally believed to avoid the complications of a full EST. Lee and Han¹ conducted a large retrospective multicenter study, in which a total of 946 consecutive patients with large CBD stones were enrolled in this study. Serious adverse events occurred in 95 patients (10%), after which the following guidelines of EPLBD in order to pursuit zero mortality were suggested; 1) EPLBD should be avoided in patients with distal CBD strictures; 2) full EST should be avoided immediately before EPLBD; 3) the balloon should be inflated gradually; 4) inflation should be discontinued in cases of persistent balloon waist (75% rule); 5) not to be inflated beyond the maximum diameter of the dilated CBD; and 6) convert to an alternative stone removal or drainage method any time there is difficulty in removing the stone. Because it was multicenter study analyzing the safety of EPLBD based on large numbers of cases, experienced experts will agree with the above referred recommendations, though it was studied retrospectively.

HOW TO PREVENT POST-ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (ERCP) COMPLICATIONS?

Kahaleh and Freeman² recently made recommendations to minimize risks of ERCP in International Digestive Endoscopy Network (IDEN) 2012 as follows; adequate selection of patients undergoing ERCP, skilled operators using novel techniques for prompt identification, which is key to successful prevention and management. Pancreatitis is the most common complication associated with ERCP procedure with average rate of about 5%. Risk factors for the occurrence of post-ERCP pancreatitis include younger age, indication of suspected sphincter of Oddi dysfunction, history of previous post-ERCP pancreatitis, absence of elevated serum bilirubin levels, and female sex are usually at increased risk. Technique-related issues have long been recognized to be important in causing post-ERCP pancreatitis. He also mentioned about specific techniques to reduce risk of post-ERCP pancreatitis, such as pancreatic stents, more promising pharmacological agents including non-steroidal anti-inflammatory drug, and enema for prevention of post-ERCP pancreatitis.

ENDOSCOPIC NECROSECTOMY: CAN WE DO IT?

New possibility that EUS-guided endoscopic pancreaticobiliary drainage can replace the percutaneous techniques and obviate surgery was shown in IDEN 2012. Kahaleh³ referred that endoscopic debridement and stent insertion can reduce high morbidity and mortality of surgery in severe necrotizing pancreatitis. Endoscopic necrosectomy using repeats session of debridement and plastic stents insertion has been more frequently used within the last decade and half. Fully covered self-expandable metal stents might provide a safer and more efficient drainage through a larger diameter stent. Additionally he described techniques of transmural drainage and endoscopic debridement, how to make the transenteric access into the pancreatic necrosis, how to make active endoscopic irrigation with a gastroscope and debridement of cystic contents using biopsy forceps, and Roth nets and polypectomy snares in detail. This technique is evolving continuously as we attempt to optimize the post-procedural outcomes.

SPYGLASS DIRECT VISUALIZATION SYSTEM: DOES IT WORK?

There were attractive video lectures during IDEN 2012 dealing with advanced techniques for pancreaticobiliary visualization including direct peroral cholangioscopy, spyglass direct visualization system, forward-viewing echoendoscopy, and contrast-enhanced EUS and elastography accompanied with actual interesting cases for each. Kahaleh⁴ mentioned that the single operator cholangioscopy (SOC) system (SpyGlass; Direct Visualization System, Natick, MA, USA) may offer an interesting compromise in terms of size (10 Fr diameter) and complexity of use. SOC is challenged by the size of the biopsy obtained and the stiffness of the forceps (SpyBite; Boston Scientific, Natick, MA, USA) fitting within the working channel of the system. Sensitivity of forceps biopsy through the cholangioscope was far higher for intrinsic (66%) than extrinsic (8%) malignant lesions. Conclusively, SpyGlass (Direct Visualization System) has not only been used as a platform for advanced intraductal imaging with probe based endomicroscopy and SpyGlass-guided stone fragmentation; but also for photodynamic therapy to treat bile duct cancer. SOC can be a great step to realize intraductal visualization as well as therapy, but the best is yet to come.

CONCLUSION

Pancreatobiliary endoscopy is continuously evolving area with new techniques and we attempt to optimize the post-procedural outcomes.

Conflicts of Interest

The author has no financial conflicts of interest.

REFERENCES

1. Lee DK, Han JW. Endoscopic papillary large balloon dilation: guidelines for pursuing zero mortality. *Clin Endosc* 2012;45:299-304.
2. Kahaleh M, Freeman M. Prevention and management of post-endoscopic retrograde cholangiopancreatography complications. *Clin Endosc* 2012;45:305-312.
3. Kahaleh M. Endoscopic necrosectomy for walled-off pancreatic necrosis. *Clin Endosc* 2012;45:313-315.
4. Kahaleh M. Spyglass direct visualization system. *Clin Endosc* 2012;45:316-318.