Progress in biliopancreatic endoscopy

Department of Internal Medicine, Evangelisches Krankenhaus Düsseldorfer, Germany

Horst Neuhaus

MRCP and EUS have widely replaced ERCP in biliopancreatic imaging because they are comparably accurate, provide additional information and they are non-invasive or less invasive. ERCP can still be indicated as a complementary diagnostic procedure in selected cases, in particular for differential diagnosis of indeterminate ductal stenoses or filling defects. Those with a tumor mass can be accessed by EUS with fine needle aspiration or - biopsy. ERCP can be combined with direct visualization of the biliopancreatic ducts to evaluate their mucosal structure and the vascular pattern and to take targeted biopsies. New technologies overcome limitations of conventional fiberoptic cholangioscopy and pancreatoscopy which have never gained wide acceptance. High technical success rates and accuracy rates of more than 90 % for differentiation of indeterminate biliary stenoses were reported for the use of a video babyscope or direct peroral cholangioscopy (DPOCS). Comparable results can be achieved with digital single operator cholangioscopy (SOC). SOC offers the advantage that the access catheter can be equipped to a therapeutic duodenoscope for operation by a single endoscopist. It has channels for irrigation, suction and insertion of accessories. It can be deflected in 4 ways, which greatly improves the manipulation and permits easy advance into the proximal bile ducts that can be difficult for the DPOCS technique. ERCP, cholangiopancreatostomy and EUS can be combined with probe-based confocal laser endomicroscopy (pCLE) which enables real-time microscopic visualization of indeterminate ductal or cystic lesions. Another future role of cholangioscopy is its use for radiation-free interventions.

Progress has also been made in endoscopic treatment in a variety of biliopancreatic diseases. Modern accessories facilitate ERCP - or EUS guided ductal access. EUS can be used for creation of anastomoses between the biliopancreatic system the enteric tract or for internal drainage of fluid collections. A large variety of expandable stents is available for management of malignant or benign ductal stenoses or for transenteric biliopancreatic interventions. Ductal stones can be fragmented with lithotripsy under direct visualization to facilitate their removal. Endoscopically guided radiofrequency ablation or cryotherapy are currently under evaluation for neoadjuvant or palliative treatment of selected biliopancreatic tumors. There is a rapid progress in diagnostic and therapeutic technologies for a minimally invasive management of biliopancreatic diseases. There are promising but their efficacy and safety need further evaluation. They should be compared with established methods of endoscopy, radiology and surgery in appropriate trials.
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Dr. Horst Neuhaus is Chief of the Department of Internal Medicine of the Evangelisches Krankenhaus Düsseldorf, teaching hospital of the University of Düsseldorf. The endoscopy unit of this department is one of the WEO Centers of Excellence and training center of the ESGE. He is associate professor of the Medical Faculty of the Technical University Munich. Horst Neuhaus graduated from the University of Bonn, Germany, in 1979. In the same year he obtained his Doctor of Medicine. He then did residencies at the Department of Surgery in Hürth and the Departments of Internal Medicine in Neuss and Ingolstadt. After his training in gastroenterology, he became faculty member of the Medical Department II, Klinikum rechts der Isar of the Technical University Munich under the leadership of Professor Meinhard Classen. In 1987, he became head of the endoscopy unit.

In 1992, Horst Neuhaus obtained his "Habilitation" at the Medical Faculty of the Technical University Munich. He became Associate Professor of the same faculty in 1999. In 1995, Professor Neuhaus was appointed as the Chief of the Department of Internal Medicine of the Evangelisches Krankenhaus Düsseldorf. His position includes Chief of Service of the Department of Gastroenterology with a high volume tertiary referral endoscopy center. He has a wide field of clinical and scientific interests which include diagnostic and therapeutic endoscopy, biliary and pancreatic diseases and endoscopic management of early gastrointestinal neoplasms.

Horst Neuhaus has served as councillor of the Governing Board and the Scientific Committee of the United European Gastroenterology (UEG), councillor of the German Society of Gastroenterology (DGVS) and the German Society of Endoscopy and Imaging Procedures (DGE-BV). He was previously President of the European Society of Gastrointestinal Endoscopy (ESGE). He is treasurer of the next world congress of endoscopy (ENDO 2020). He is on the editorial board of the several peer-reviewed journals. He has been director of the annual Düsseldorf International Endoscopy Symposium which was established by his group in 1999.