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EUS-CDS vs ERCP to Prevent Postprocedural Pancreatitis in Malignant Distal Biliary Obstruction

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This summary reviews Anderloni A, Spadaccini M, Binda C, et al. Endoscopic ultrasound-guided choledochoduodenostomy vs endoscopic retrograde cholangiopancreatography in malignant distal biliary obstruction to prevent postprocedural pancreatitis: A randomized trial. Gastroenterology. 2026 Jan 9: S0016-5085(25)05982-7. doi: 10.1053/j.gastro.2025.09.003.

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STRUCTURED ABSTRACT

Question: Is endoscopic ultrasound-guided choledochoduodenostomy (EUS-CDS) superior to endoscopic retrograde cholangiopancreatography (ERCP) in reducing post-procedural acute pancreatitis in patients with malignant distal biliary obstruction?

Design: Multicenter, randomized superiority trial. Randomization was performed without stratification, using permuted blocks of 4 to ensure balanced group sizes within each participating center throughout enrollment.

Setting: Six high-volume tertiary referral centers in Italy.

Patients: Adults aged ≥18 years with obstructive jaundice due to malignant distal biliary obstruction and a dilated common bile duct (≥15 mm). A total of 220 patients were randomized (111 EUS-CDS; 109 ERCP).

Intervention: Primary biliary drainage with EUS-CDS using a cautery-enhanced lumen-apposing metal stent (8 mm x 8 mm or 6 mm x 8 mm) versus ERCP with placement of a covered self-expandable metal stent. Acute pancreatitis prophylaxis was performed by routine intravenous hydration with lactated Ringer (LR) solution and rectal administration of 100 mg of indomethacin immediately before each procedure in all patients without contraindication, as recommended by the updated ESGE guideline. The LR protocol consisted of an infusion at 3 mL/kg/h during and after the procedure, continued for up to 6–8 hours. Exclusion criteria included coagulopathy or thrombocytopenia at the time of the procedure (International Normalized Ratio ≥1.5 or platelet count < 50,000 /μL), or antithrombotic therapies precluding the procedure according to European Society of Gastrointestinal Endoscopy (ESGE) guidelines, pregnancy, life expectancy < 3 months, prior biliary sphincterotomy or stent placement, and inability to sign the informed consent. Patients with a history of, current symptoms of, or radiologic evidence of gastric outlet obstruction (extensive duodenal invasion and/or gastrectasia) were also excluded. A prophylactic pancreatic stent was placed in patients deemed at high risk for post-procedure pancreatitis, and easy access to the PD according to ESGE guidelines.

Outcomes: Primary outcome was postprocedural acute pancreatitis. Secondary outcomes included technical success, clinical success, adverse events, 6-month stent patency, procedural time, and mortality.

Data Analysis: Intention-to-treat analysis.

Funding: An unrestricted grant was received from Boston Scientific. The sponsor had no role in study design, data collection, or analysis.

Results: Postprocedural acute pancreatitis occurred in 1.8% of patients in the EUS-CDS group compared with 7.3% in the ERCP group (relative risk 0.25). Technical success was higher with EUS-CDS (94.6% vs 78.9%), and procedural time was significantly shorter. Overall adverse event rates, stent patency, and 6-month mortality were similar between groups. Two acute pancreatitis cases occurring in the ERCP group were graded as severe, with 1 of the patients dying 5 days post-procedure due to a multiorgan failure related to the systemic involvement of the pancreatitis. There were 2 cases of stent maldeployment (1.8%) in the EUS-CDS

group, 1 of which was salvaged endoscopically with a bridging tubular stent. The other case required surgery due to the maldeployment of the second flange of the stent outside the duodenal lumen, leading to the rapid formation of a peri-duodenal collection and loss of safe access to the CBD. The event was classified as severe. Technical failures in the ERCP group occurred due to failed deep cannulation in 19 patients and inability to reach the papilla in 4 patients due to duodenal tumor involvement, despite no prior clinical or radiologic evidence of gastric outlet obstruction.

COMMENTARY

Why Is This Important?

Post-ERCP pancreatitis is the most common adverse event following biliary drainage with ERCP and may delay oncologic therapy. Strategies that reduce this risk without compromising efficacy are clinically important. In addition, there has been emerging data on EUS-CDS as a primary modality in treatment of malignant distal biliary obstruction.

Key Study Findings

This randomized trial comparing EUS-CDS and ERCP in malignant distal biliary obstruction showed that EUS-CDS significantly reduced postprocedural pancreatitis compared with ERCP while maintaining comparable overall safety and clinical efficacy, with higher technical success and shorter procedural time.

However, it is important to note that 17.4% of the failed ERCP cases occurred due to failed deep cannulation, which is higher than previously reported. Also, all cases had CBD diameter of > 15 mm and therefore, these conclusions may not be universally applicable to all cases of malignant distal biliary obstruction.

Caution

The results of this trial need to be interpreted with caution. Firstly, technical success with ERCP was reported to be 78.9%, and in 17.4% of cases of failed ERCP, the reason for ERCP failure was reported to be a failed deep cannulation. This number is high compared to prior reports and it is unclear on what advanced biliary cannulation techniques were used prior to classifying ERCP as failed. Secondly, the study included patients with CBD diameter of 15 mm or greater, and therefore, EUS-CDS may not be a viable option in all cases of distal malignant biliary obstruction. Thirdly, the primary outcome of the study was post-procedure acute pancreatitis rate. Post-procedure pancreatitis is no doubt a key outcome in ERCP which can carry significant morbidity and mortality, but majority of

cases of post-ERCP pancreatitis are mild, which was also the case in the present study except 2 cases of severe post-ERCP pancreatitis. Lastly, EUS-CDS was performed by experienced operators and this may not be generalizable to all endoscopists managing malignant distal biliary obstruction.

My Practice

My practice for managing malignant distal biliary obstruction is individualized to the patient. Despite the growing interest in EUS-CDS[1, 2], my preference is to attempt ERCP whenever major papilla can be accessed. In cases where the major papilla is not accessible due to duodenal obstruction or deformity, I consider performing EUS-CDS. EUS-CDS can be performed using either a tubular stent or a lumen apposing metal stent.[3] In cases where the CBD diameter is < 15 mm, my preference is to use a tubular fully covered metal biliary stent with anti-migration properties and use LAMS when CBD is dilated to at least 15 mm or more. While post-ERCP pancreatitis continues to be a major concern with ERCP, patients with malignant distal biliary obstruction are typically not considered to be a high-risk group for PEP.[3] In addition, placement of a pancreatic duct stent in cases where deep guidewire access to the PD is achieved has been shown to reduce the rate of pancreatitis.[4] Therefore, in my practice, if inadvertent PD cannulation is performed, I place a prophylactic pancreatic duct stent. Also, it is important to note that EUS-CDS was performed by experienced endoscopists in this study and this expertise may not be widely available. Endoscopists undertaking EUS-CDS should be well versed in salvaging techniques in cases of stent maldeployment during EUS-CDS. Lastly, while there have been reports of performing pancreaticoduodenectomy in patients who have undergone EUS-CDS,[5] in patients with resectable or borderline resectable disease, discussion with local surgery team and expertise should be taken into account prior to performing EUS-CDS.

For Future Research

Future research is needed for development of more tools for safe and easy performance of EUS-CDS as well as understanding the learning curve of EUS-CDS.

Conflict of Interest

Dr. Bilal is a consultant for Boston Scientific, Steris Endoscopy, Microtech, Aspero Medical and Cook Medical.

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