

# Diverting Disaster: EUS Guided Trans-Gastric Biliary Drainage

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## Introduction

- Lumen-apposing metal stents (LAMS) are a more recent intervention that may be used for high risk surgical cases, such as malignant gastro-duodenal and biliary obstructions not amenable to Endoscopic Retrograde Cholangiopancreatography (ERCP) intervention.
- There are few case reports using LAMS with Endoscopic Ultrasound (EUS) to achieve drainage and palliative therapy in such situations, especially those favoring a trans-gastric rather than trans-duodenal approach (1).
- In this case, we add to the growing body of literature supporting a trans-gastric approach for biliary drainage using LAMS.

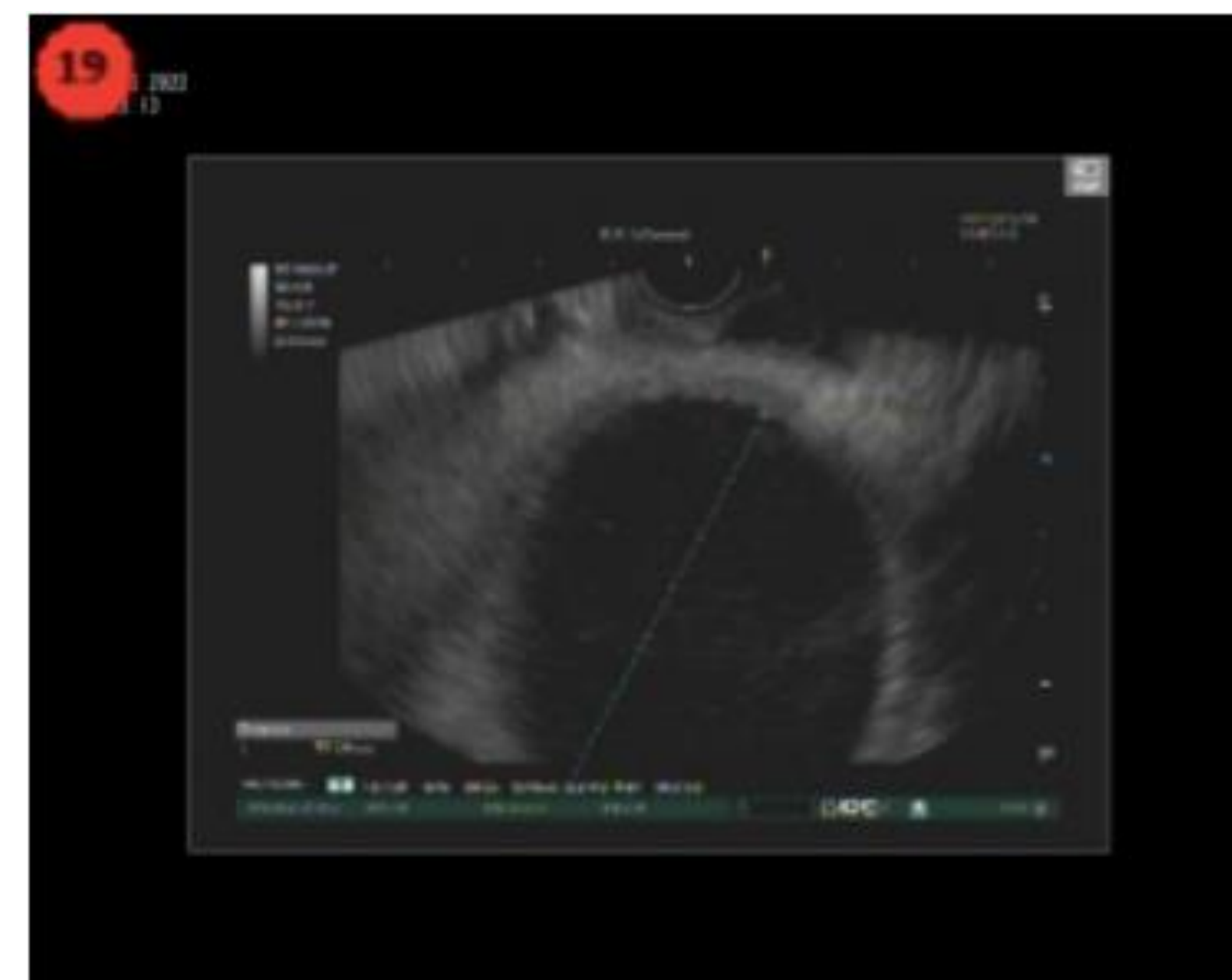
## Case Presentation

- A 73 year-old male was admitted due to concerns for obstructive jaundice. He presented with pruritus, nausea, vomiting, copious nasogastric tube bilious output and a total bilirubin of 19.8mg/dL.
- MRCP revealed a distal CBD stricture measuring 12 mm in length, marked intrahepatic and extrahepatic biliary dilatation and an 8mm dilated pancreatic duct. EGD revealed a submucosal mass within the duodenal bulb causing biliary impingement (a). EUS revealed similar findings to MRCP including an atrophic pancreas and severely dilated gallbladder (b). An ampullary mass was also identified under EUS and fine needle biopsy was performed.
- A 10mm x 10mm LAMS was then placed under endoscopic and sonographic visualization into the gallbladder from the antrum of the stomach (c), and resolved the patient's symptoms the next day. Surgical resection was later performed and pathology demonstrated pancreatic ductal carcinoma of the major and minor papillae, pancreatic head and uncinate process.

## Clinical Images



**Image A:** Dilated minor and major papillae with evidence of duodenal obstruction



**Image B:** EUS view of the dilated gallbladder



**Image C:** Biliary drainage from gallbladder post-LAMS placement

## Discussion

- Interventions for obstructive jaundice include ERCP with biliary stenting, percutaneous transcutaneous biliary drainage, EUS with choledochoduodenal LAMS placement, as well as surgery (2).
- While ERCP is the first line option, our patient's distorted ampullary anatomy precluded successful cannulation and traditional stenting. Percutaneous drainage would expose the patient to risk of dislodgment, obstruction, leakage, pain, and infection.
- Newer LAMS devices offer various diameters from 6mm to 20mm which allow for immediate biliary drainage, and potentially a patient's rapid relief of symptoms. Since a trans-duodenal approach is more commonly used, current literature displays only a small number of cases highlighting the technical success of a gastric approach for CBD access via LAMS in the setting of duodenal obstruction (3,4).

## Conclusion

- Our case demonstrates the versatility of the lumen-apposing metal stent paired with another successful alternative approach and highlights a cholecystogastrostomy with LAMS as an effective strategy for symptomatic palliation with malignant obstructive jaundice.

## References

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4. Dollhopf, Markus, et al. "M01459 Eus-Guided Biliary Drainage Using Hot-Axios-Stent in Direct Puncture Technique 6 Cases." *Gastrointestinal Endoscopy*, vol. 79, no. 5, 2014, <https://doi.org/10.1016/j.gie.2014.02.636>.