# Endoscopic Ultrasound Guided Biliary Drainage and Percutaneous Transhepatic Biliary Drainage Provide Successful Salvage Biliary Drainage in Biliary Obstruction from Pancreatic Cancer

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## Introduction

- ~ 70% of patients present with a biliary obstruction at the time of diagnosis of pancreatic cancer.
- ERCP is the primary modality for biliary decompression.
- Alternative nonsurgical methods – EUS guided biliary drainage via choledocho-duodenostomy PTC biliary drainage
- The objective for our study is to review the rates of technical and clinical success of EUSBD and PTBD for malignant biliary obstruction after unsuccessful ERCP.

## Methods

- Retrospective study from 2017-2021.
- Inclusion criteria: patients with biliary obstruction from pancreatic head mass who underwent ERCP, EUSBD, or PTBD.
- Technical success = successful biliary decompression with ERCP, EUSBD or percutaneous approach.
- Clinical success = 25% reduction in T bilirubin 7 days post procedure.

## Results

- 309 patients initially reviewed → 26 excluded in ERCP group, 24 in EUSBD group, and 151 in PTBD group for lack of pancreatic head mass and/or no pre or post-procedural labs = 108 patients for final data collection
- Demographics were comparable among 68 patients (ERCP), 28 (EUSBD), and 12 patients ( PTBD).

| | ERCP n = 68 | EUSBD n = 28 | PTBD n = 12 |
|---|---|---|---|
| Average age (years) | 68 | 70 | 71 |
| Males | 56% | 46% | 42% |
| Caucasian | 72% | 68% | 75% |
| African American | 24% | 32% | 25% |
| History of Smoking | 47% | 50% | 50% |
| CBD Diameter (mm) | 12.8 | 15.4 | 11.6 |

Table 1: Demographic data for ERCP, EUSBD, and PTBD groups.

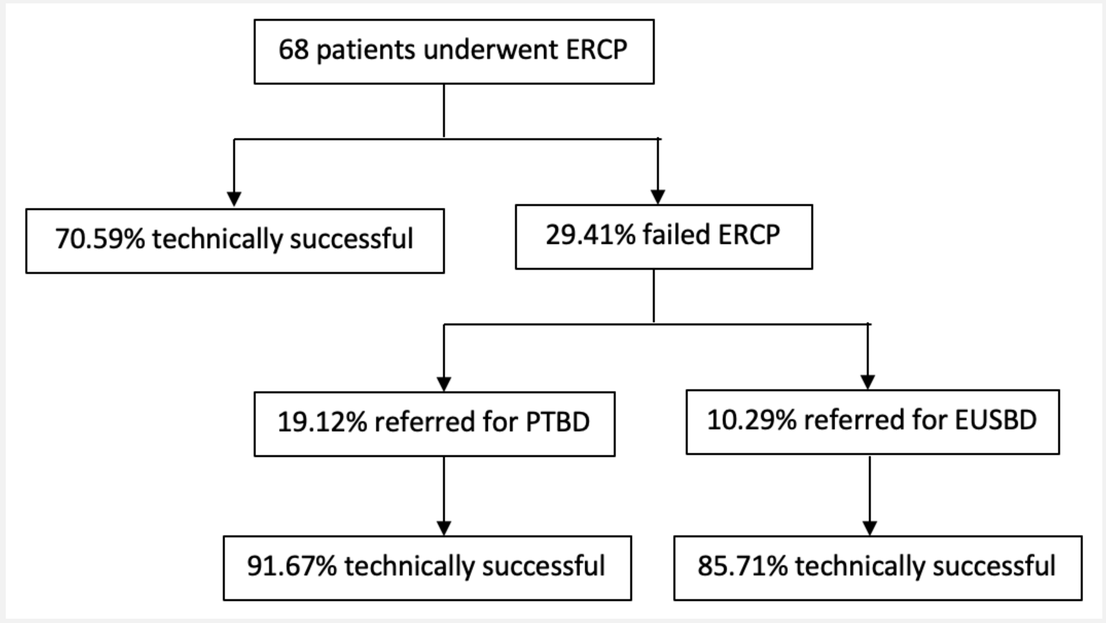


Figure 1: Flow chart demonstrating technical success of ERCP and subsequent EUSBD and PTBD procedures.

## Results continued

- 29% of ERCP procedures, a biliary stent was unsuccessful due to luminal obstruction or failed biliary cannulation → 19% were referred to PTBD, and 10% underwent EUSBD.
- EUSBD group, 11% of procedures had failed stent placement → referred for PTBD.
- Technical success was achieved in 92% PTBD and 86% EUSBD, (p=0.61).
- Clinical success was achieved in 85% of ERCP, 83% of EUSBD, and 91% of PTBD (p=0.73).

## Conclusion

- Our study shows similar rates of technical and clinical success among the EUSBD and PTBD groups after unsuccessful ERCP.
- Our findings support the use of EUSBD over PTBD after unsuccessful ERCP since EUSBD can be performed in the same setting without need for another procedure.
- Further studies with more patients are needed to validate these findings, determine the tolerability of the two procedures to allow for a more personalized approach, and stratify predictors of technical and clinical success.

## References

1. Boulay BR, Birg A. Malignant biliary obstruction: From palliation to treatment. World J Gastrointest Oncol. 2016;8(6):498-508.
2. Bang JY, Navaneethan, U., Hasan, M., Hawes, R. & Varadarajulu, S. Stent placement by EUS or ERCP for primary biliary decompression in pancreatic cancer: a randomized trial (with videos).Gastrointest Endosc 88, 9–17 (2018).