

Introduction

- Endoscopic retrograde cholangiopancreatography (ERCP) can be challenging or impossible for management of obstructive bile duct pathology in individuals with altered gut anatomy.
- Percutaneous transhepatic cholangiography (PTC) with drain placement usually achieves adequate drainage but is limited with regards to therapeutic options.
- Percutaneous cholangioscopy (PC) using Spyglass™ via PTC route can allow for meaningful interventions like those performed during ERCP.

Methodology

- We describe a case series of fourteen patients who underwent PTC drain placement followed by percutaneous cholangioscopy performed in collaboration between gastroenterology and interventional radiology between January 2015 to May 2022 at Henry Ford Hospital.
- Cases were identified by searching for relevant billing codes on ProVation databases.
- Each chart was then individually reviewed to extract relevant information such as indication, procedural details and complications.

Images

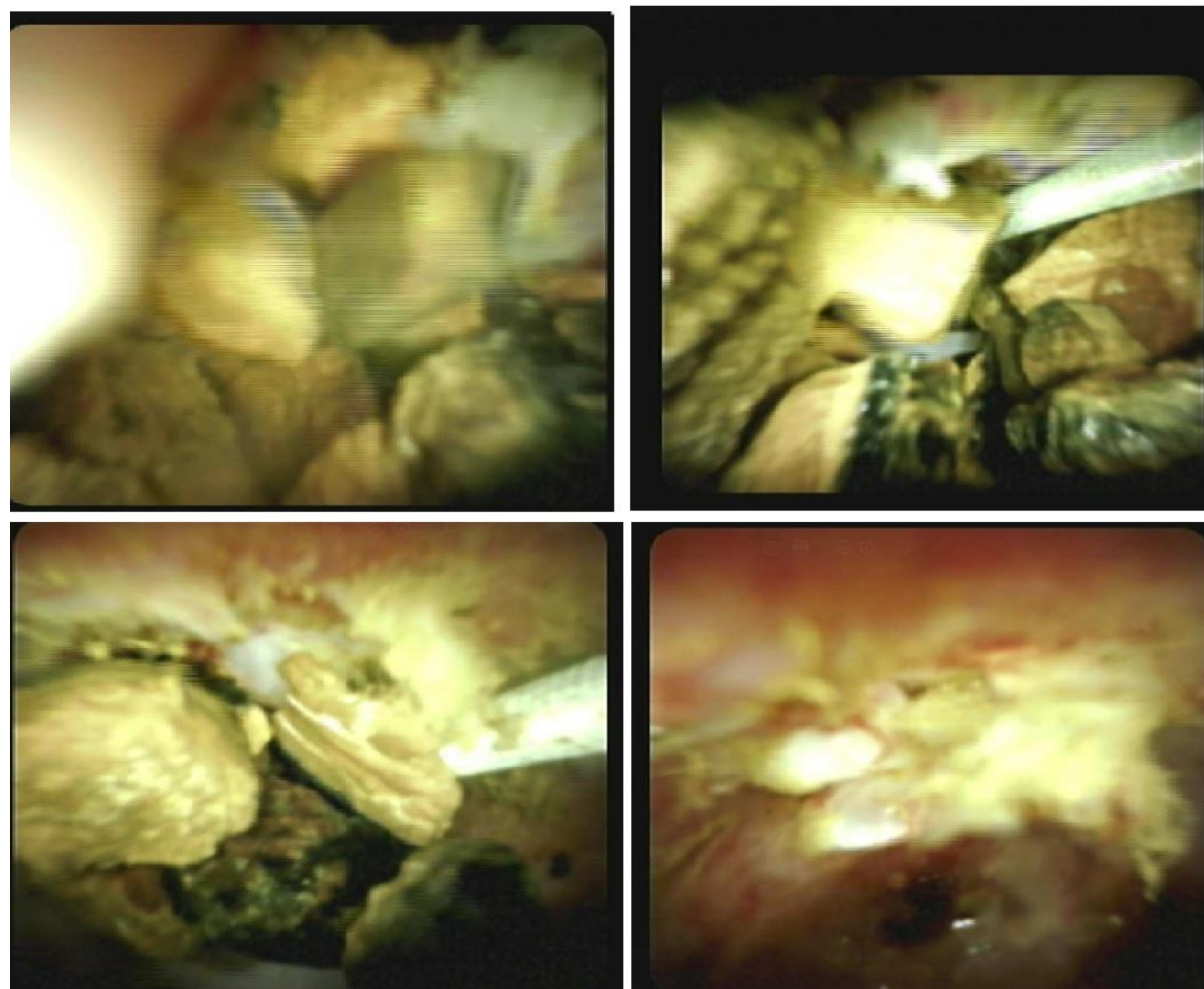


Figure 1: A case of large left intrahepatic choledocholith visualized cholangioscopically. This was treated by EHL with successful stone fragmentation

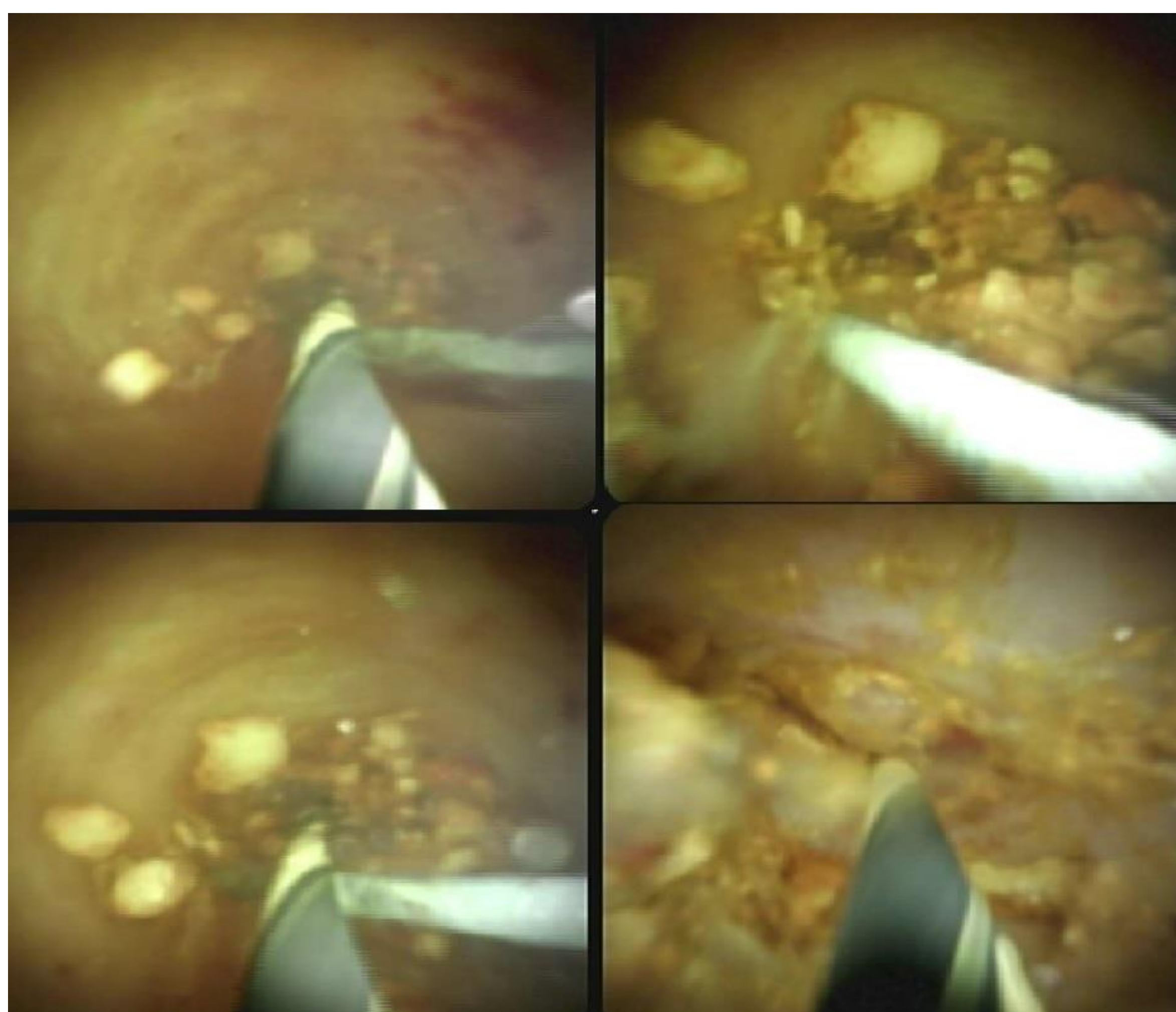


Figure 2: A case of choledocholithiasis, removed with a spy basket via the PTC tract and pushed out of the duct into the duodenum with a balloon and spyscope. Suspected ampullary stenosis.

Results

- Fourteen patients underwent PTC drain placement with IR followed by subsequent percutaneous cholangioscopy (PC) at a later date.
- Most patients (92.9%) had choledocholithiasis on imaging and (57.1%) had cholangitis on initial presentation.
- All individuals had altered anatomy, with Roux-en-Y gastric bypass in 71.4%, duodenal switch anatomy in 14.2%, Billroth II and Roux-en-Y hepaticojejunostomy in 7.1% each.
- Three had prior failed ERCP attempts, and one had a prior failed EDGE procedure attempt.
- Multiple stones were discovered in 71.4% of patients, single stone 14.2%, stricture 21.3% and no stone seen in 7.1%.
- Three patients had benign biliary strictures evaluated by spybites.
- Electrohydraulic Lithotripsy (EHL) was utilized in 57.1%, retrieval balloons in 35.7% and basket in 14.3% of cases to achieve duct clearance.
- Median one session was required for duct clearance and procedure was described as successful in all cases of choledocholithiasis (92.9%).
- No complications were seen with any of the fourteen cases, specifically pancreatitis, infection or thirty-day mortality..

Conclusions

- In cases with altered anatomy making ERCP challenging or impossible, cholangioscopy via PTC route is a viable therapeutic option with low risks and high success rate.
- Further research is needed to compare this approach to other options, including an EDGE procedure where anatomy allows.