Transcystic laparoscopic common bile duct exploration and stricturoplasty in a patient with a roux-en-y gastric bypass at a rural hospital: A Case Report

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Introduction

- Choledocholithiasis is estimated to occur in 5-20% of patients with gallbladder disease.
- Bariatric surgery is a known risk factor for creation of cholesterol stones.
- Clearance of the biliary tree can be achieved either endoscopically or surgically.
- Patients with altered anatomy make an endoscopic approach difficult.

Case Description

- 48 year old male presented with one month history of epigastric pain.
- He had a past surgical history of a roux-en-y gastric bypass (RNYGB).
- Admission findings were as follows:

Laboratory tests	Imaging
• Total bilirubin 5.8mg/dl • Direct bilirubin 4.3mg/dl	CT abdomen with IV contrast • Gallbladder wall thickening • Pericholecystic fluid • Gallstones • Dilation of common and intrahepatic bile ducts

- The clinical picture was consistent with acute cholecystitis with choledocholithiasis.

Clinical Course

- His anatomy was not conducive for endoscopic retrograde cholangiopancreatography (ERCP) because of his gastric bypass history, therefore we proceeded with a laparoscopic cholecystectomy with plans for an intraoperative cholangiogram.
- The cholangiogram showed visualization of the proximal and distal biliary tree.
- Contrast was seen to be flowing into the duodenum but there appeared to be a narrowing near the ampulla of Vater.
- This narrowing was thought to be due to a stricture or spasm or sludge or stones.
- A balloon stricturoplasty was then performed, followed by a completion cholangiogram which demonstrated contrast flowing freely in the duodenum without evidence of further narrowing or stricture.
- Post-operatively, the patient's total bilirubin down-trended.

Post-operative Day 2 (Discharge day)	Post-operative Day 7 (outpatient follow-up)
Total bilirubin 2.6mg/dl	Total bilirubin 1.6mg/dl

Images

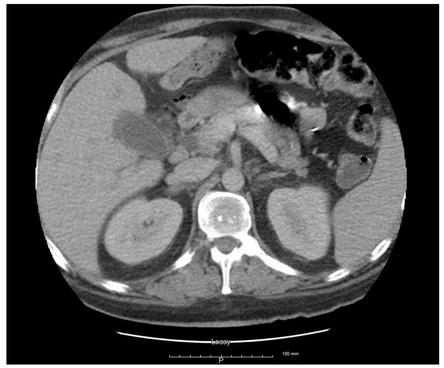


Figure 1: Dilated common bile duct (CBD)

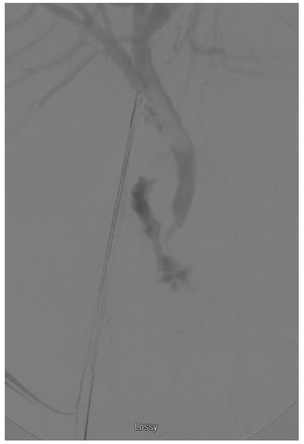


Figure 2: a. Intraoperative cholangiogram showing narrowing around the ampulla of Vater

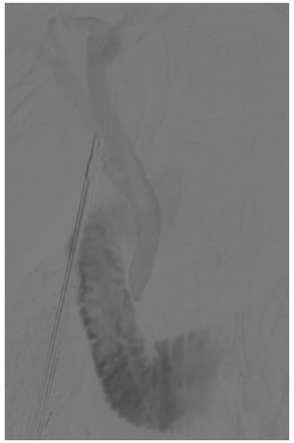


Figure 2: b. Final cholangiogram after stricturoplasty

Discussion

- In patients with both cholecystitis and choledocholithiasis, treatment can be done as:
  - ❖ i. a two-step procedure: cholecystectomy followed by endoscopic exploration of the CBD at a later time

    OR
  - ❖ ii. simultaneously with either a laparoscopic or an open approach.
- Endoscopic exploration is limited if the patient has altered anatomy as with a RNYGB.
- With the laparoscopic approach, two options include:
  - ❖ i. cannulation via the cystic duct
  - ❖ ii. choledochotomy
- Transcystic instrumentation of the CBD is less invasive and has fewer complications.

Conclusion

- Choledocholithiasis can be treated with a laparoscopic common bile duct exploration via a transcystic approach.
- This approach maintains the integrity of the common bile duct, and is suited for patients who have altered anatomy preventing routine endoscopic access of the common duct.