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Primary Closure versus T-Tube Drainage after Laparoscopic Choledochotomy in Patients with Common Bile Duct Stones

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Common Bile Duct Stones can be classified by two ways

By Point of Origin	By Time of Detection Relative to Cholecystectomy
PRIMARY CBD CALCULUS: Form within the Billiary tract, they are usually brown pigment type	RETAINED: Detected with in the 2 year of cholecystectomy
SECONDARY CBD CALCULUS: They originate from Gall bladder and come in to CBD through cystic duct	RECURRENT: Detected after 2 year of cholecystectomy

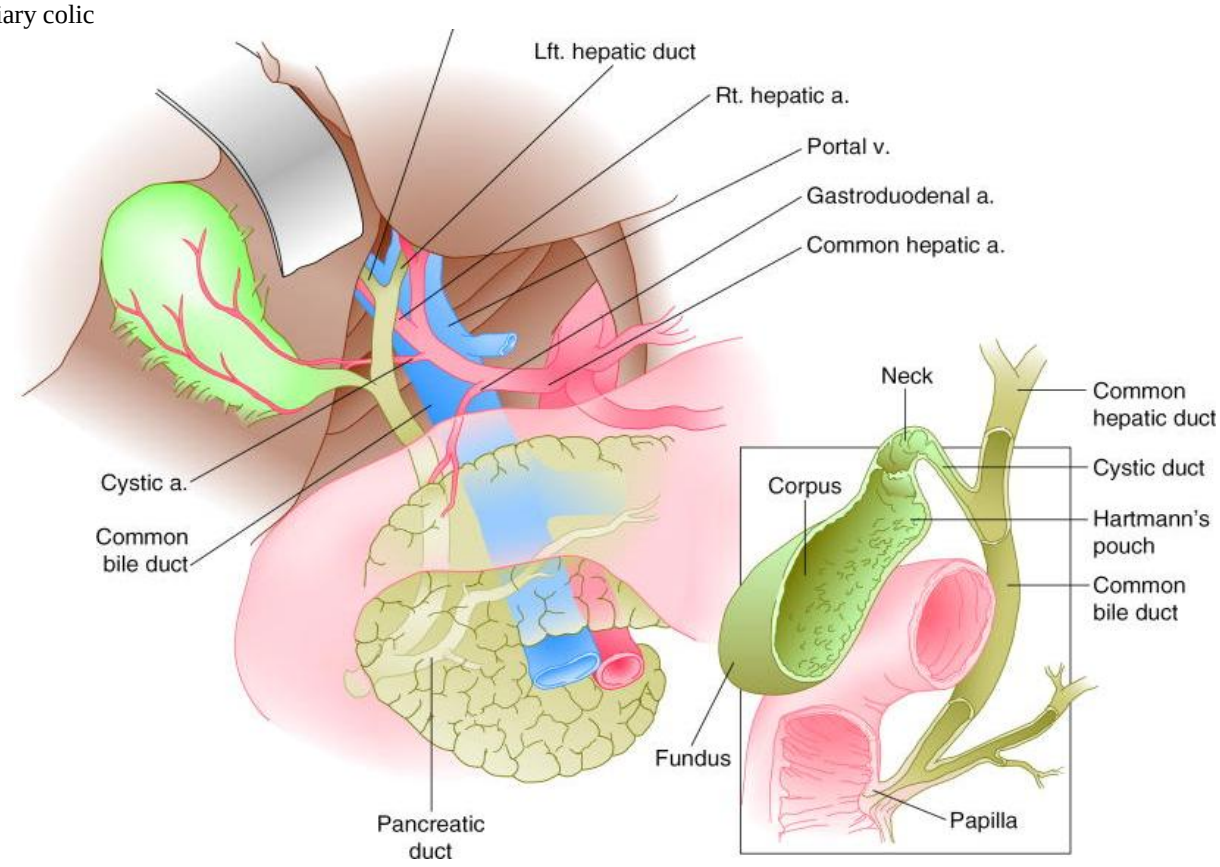
1. Clinical Presentation

Biliary obstruction due to CBD stones can cause-

- Biliary colic
- Jaundice
- Light of stools
- Darkening of urine
- Fever chills due to cholangitis

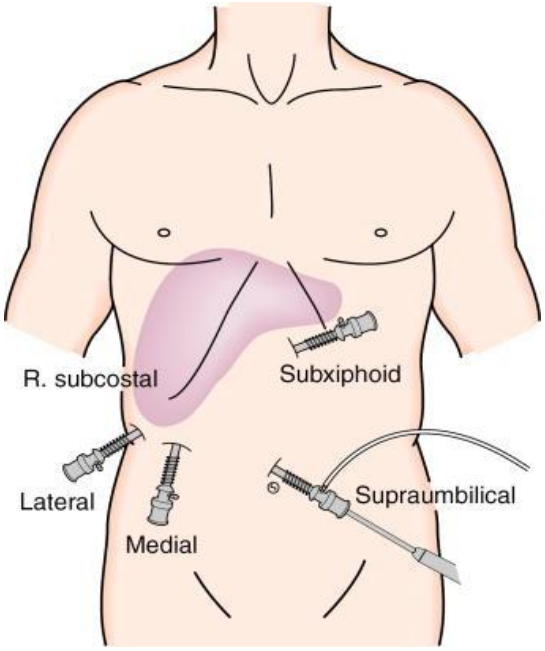
Investigations

- S.Bilirubin
- ALP
- AST
- USG
- MRCP
- OGD



- In the era of Minimal Invasive surgery Laparoscopic Choledochotomy has replaced open CBD exploration but, in case of any difficulty or complication in laparoscopic choledochotomy, procedure to be converted in to open CBD exploration.
- After achieving complete clearance of CBD stones previously T-tube was inserted for billiary drainage but now a days stent placement followed by primary closure is also commonly used method.

2. Procedure



Four ports placed in abdomen after insufflation
1 Lateral
2 Medial
3 Supraumblical
4 Subxiphoid

- After reaching CBD stay suture taken in CBD Choledochotomy done with small incision in CBD clearance of stone done with the help of stone removing forcep total clearance achieved with jet flush and can be assured by intraoperative cholengiography
- Then either primary closure after simple stent can be placed or T-tube can be placed in the CBD for billiary drainage extreriorly.
- Then Cholecystectomy done

Many of the trials has been conducted to compare the outcomes for both types of drainage techniques. In the laparoscopic era surgery is performed with minimally invasive techniques in order to reduce trauma, T-tube is not without complications and patient have to carry it for several weeks before removal, So we believe that primary closure can be safe as closure with T-tube drainage.

3. Aim

To demonstrate safety and feasibility of primary closure of common bile duct after laparoscopic choledochotomy and removal of CBD stones.

Traditionally CBD is closed with T-Tube drainage and removal of CBD stones, still this method is in practise, but now a days primary closure after stent placement is more commonly used technique

4. Methodology

This study is analysis of patient who underwent Primary closure of CBD after successful laparoscopic choledochotomy for ductal stones between June 2018 and December 2019 in RD Gardi Medical College ujjain & UCTH

5. Result

Of the 28 patients that underwent laparoscopic exploration of CBD 3 patients undergo transcystic duct approach and 25 underwent choledochotomy and 7 cases converted to Open CBD exploration. Stone clearance was achieved in all patients with successful laparoscopic choledochotomy.

Of the 18 patient who could successfully operated as laparoscopic choledochotomy 11 had primary closure and 7 had T-tube drainage, the median operative time was less in primary closure, postoperative stay is shorter in primary closure.

6. Conclusion

Primary closure of CBD is feasible and safe as T-tube insertion after laparoscopic choledochotomy for stone disease.

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