ORIGINAL RESEARCH PAPER

General Surgery

DOUBLE GALL BLADDER WITH SEPARATE CYSTIC DUCT WITH ACUTE CHOLECYSTITIS—A RARE ENTITY

KEY WORDS:

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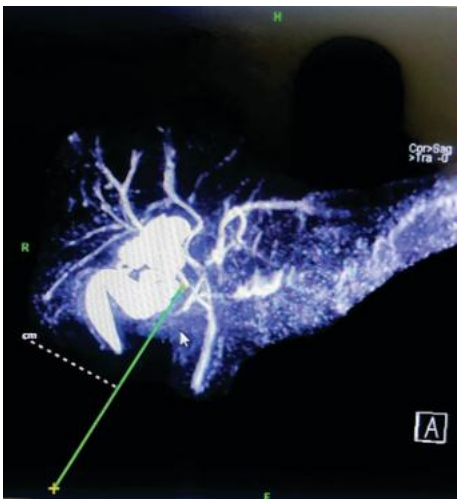
INTRODUCTION

Gallbladder and biliary tract anatomical anomalies encompass various developmental deviations from the typical location, structure, and connections of the gallbladder. These anomalies can range from minor variations in position or shape to more significant malformations.

Case Presentation

Here is one such a case we encountered, A 35 years old lady presented with complaints of abdomen pain for the past two days which was classical cholecystitis pain and on clinical examination Murphy's sign was positive. Baseline blood investigation showed elevated total bilirubin (1.5 mg/dl), elevated direct bilirubin (0.67 mg/dl), elevated Serum glutamic oxaloacetic transaminase (SGOT-96 U/L) and Serum glutamic pyruvic transaminase (SGPT-46 U/L) levels, level was raised to 456 U/L. Transabdominal ultrasound (USG) revealed multiple calculi within the lumen of the gall bladder with wall thickening. In view of ALP levels and to rule out obstructive disease, magnetic resonance imaging (MRI) abdomen was performed.

MRI abdomen on axial T2 single shot fast spin echo (SSFSE), axial and coronal T2 fast imaging employed steady state acquisition (FIESTA) (image 1) sequences revealed a Intrahepatic subcapsular cystic lesion, in segment V with lobulated margin measuring 2x3.2x1.6(AP X ML X SI) seen communicating with body of gall bladder. Suspected bilobed GB with deformed intrahepatic component with focal dilated bilary duct in segment V duct of liver communicating with gall bladder.



(Image 1)

Intra Operative Findings

After placing standard laparoscopic cholecystectomy ports callot's triangle dissected cystic duct and CBD junction identified, after that retrograde dissection of gall bladder from fossa done and at the level of hartmann's pouch posteriorly cystic lump like gallbladder with separate cystic duct draining into right hepatic duct or segment V duct found which is confirmed with intra operative cholangiogram, so the operation was converted to conventional open surgery through kocher's incision. Dissection into liver parenchyma proceeded and junction of second cystic duct and right hepatic duct identified and clipped and normal anatomical variant duct also tied and specimen extracted out.

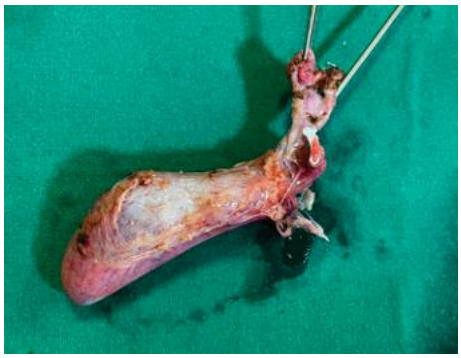


Figure 1 Post-operative specimen showing outpouching of cystic component of duplicated gall bladder with separate cystic duct draining into right hepatic duct.

DISCUSSION

Duplicated gallbladder is one of the rare anomalies of biliary system. Embryologically during fifth or sixth week of gestation, abnormal bifurcation of pars cystic results in the formation of double gall bladder . Because of associated anatomical variations of cystic duct and hepatic artery, this congenital anomaly is important to know for the surgeons and imaging plays a vital role in preoperative workup.

Two main classification described in literature which we are discussing.

The Harlaftis classification divides gallbladder duplication into four types :

type 1 is characterised by a common cystic duct and is due to late division of the pars cystic

- septated gallbladder
- septated gallbladder and cystic duct
- V-shaped double gallbladder
- Y-shaped double gallbladder: second most common

type 2 is characterised by double cystic ducts and is due to early division of the pars cystica or pars hepatic

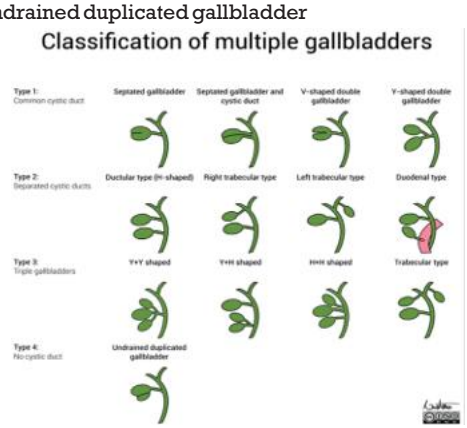
- ductular type (H-shaped): most common
- right trabecular type
- left trabecular type
- duodenal type

type 3 is characterised by triple gallbladders

- Y+Y shaped
- Y+H shaped
- H+H shaped
- trabceular type

type 4 is characteristic by no cystic duct

- undrained duplicated gallbladder



The Boyden classification divides gallbladder duplication into three groups

- bilobed, incomplete gallbladder division with one common cystic duct
- complete gallbladder duplication with separate cystic ducts that lead to a common hepatic duct
- complete gallbladder duplication with a common cystic duct entering the common hepatic duct .

In our case patient is presented in acute cholecystitis though sonography report was not conclusive of any biliary anomalies and due to elevated ALP we did MRI abdomen and found about biliary anomaly. In our case with two different cystic duct draining into biliary system according to Boydens classification it is of Right trabacular type anomaly . With better vision through laparoscopic surgery can achieve this kind of result or if no experience of such cases better to convert into open procedure and intra op cholagiogram and thorough anatomical knowledge of biliary anomalies should be with operating surgeon.

CONCLUSION

Duplicated gall bladder is a rare congenital anomaly, which requires a detailed preoperative imaging of biliary and the arterial anatomy to avoid unnecessary biliary injury. It is very important to be familiar with this rare entity, so that it is not confused with other pathological conditions of the hepatobiliary system.

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