

Mystery of Absent Gall Bladder: Surgical Concerns and Review of Literature.

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Abstract: Congenital agenesis of the gall bladder is a rare but a well recognized entity with incidence between 0.01 and 0.05%. about 50% of these cases present with symptoms similar to gall bladder/biliary tract disease. Ultrasound scan, which is routinely used to diagnose gall bladder disease can be misleading. As this condition is rare, it represents a dilemma for surgeons. Risk of biliary injury is high as anatomy encountered is unusual one. A rare case of absent gall bladder which posed a diagnostic dilemma, is presented.

INTRODUCTION

Congenital absence of the gall bladder is a very rare but well recognized condition. This condition can present as a diagnostic and intra-operative dilemma to the surgeon. The condition may be asymptomatic or can present with symptoms similar to gall bladder disease or biliary tract disorder or associated with other congenital malformations. Other biliary system variants are although extremely common, isolated congenital agenesis of gall bladder is extremely rare, with a reposted incidence ranging between 0.013 and 0.075%, i.e. about 50% cases with congenital absence of gall bladder are symptomatic for biliary tract disease and require some form of surgical intervention. Pre-operative diagnosis of gall bladder may be missed. An unusual case of agenesis of gall bladder with suggestive symptomatology. A pre-operative ultrasound suggested cholelithiasis, leading to operative intervention.

CASE REPORT

A 43 years old female patient reported in surgery outdoor department with complaints of pain in right upper abdomen, dyspepsia and nausea door last 6-7 months duration for which she had got an ultrasound scan done outside which suggested chronic cholecystitis with cholelithiasis, normal CBD, no other sonographic abnormality. From clinical symptoms and USG report a diagnosis of gall bladder disease was made and she was advised cholecystectomy. Routine investigations along with renal and liver function tests were got done, all investigations were found to be normal. Medical fitness for surgery and pre-operative anesthesia clearance were obtained. Laparoscopic cholecystectomy was attempted using standard technique and on laparoscopy no gall bladder could be visualized in gall bladder area. A thorough and careful search was made, but gall bladder was not localized. CBD was found dilated, rest of viscera examined were found normal. The procedure was converted into open surgery and abdomen was opened through Kocher's incision. Extensive search for gall bladder was made all around; CBD was followed from porta hepatis till duodenum. CBD was palpated and no stones were felt, it was dilated and was about 1.5 cm in size. No evidence of gall bladder, cystic duct or cystic artery was found. Abdomen was closed as usual and port operative recovery of the patient was without any complications. Post operative CT scan showed agenesis of gall bladder; ERCP, MRCP or operative USG, were not available.

DISCUSSION

The isolated absence of gall bladder and cystic duct is rare but is misinterpreted as cholecystitis with cystic duct obstruction or as sclera-atrophic gall bladder, therefore leading to unnecessary surgery. In the 4th to 5th week of life, a 4mm embryo develops a bud from foregut that grows cephalad and the cranial portion becomes the liver and hepatic bile ducts. In the caudal portion of growing bud. There develops a second bud, or diverticulum, and this is destined to

become the gall bladder and cystic duct. Failure in organogenetic sequence at this point results in agenesis of gall bladder.

Lemary first reported this condition in literature in 1701. The reported incidence in literature range between 0.01 and 0.05%. The incidence is equal in both the sexes from autopsy studies whereas 2- times more common in females in clinical cases³⁻⁵.

Agenesis of gall bladder is associated with other malformations leading to death in first year of life. Various malformations that are associated are cardiovascular, gastrointestinal, genitourinary, central nervous system. Agenesis of gall bladder at times is diagnosed at autopsy or at laparotomy for unrelated diagnosis. 50% of cases with agenesis of gall bladder are symptomatic and present in 4th or 5th decade of life⁶. In spite of rapid advances in diagnostic modalities like USG, CT Scan, ERCP, MRCP, pre operative diagnosis of gall bladder may be missed⁷, as in our case. In 1988, Bennion et al⁶, found 208 symptomatic cases of agenesis of gall bladder in literature. 90% presented with right upper abdominal pain, 66% with nausea and vomiting and 37% with fatty food intolerance. Frey's laid down criteria for diagnosis of agenesis of gall bladder^{8,9}, which involved extensive dissection associated with major complications, not justified for a harmless condition like agenesis of gall bladder.

Significant progress in radiology and availability of non invasive imaging techniques like CT, MRCP, and EUS provides us an excellent alternative to open exploration⁹, but these are not readily available.

CONCLUSION

Agenesis of gall bladder is a rare condition but 50% of these are symptomatic. Pre-operative imaging techniques can miss the diagnosis. During laparoscopic surgery it presents as a dilemma for the surgeon, the biliary and portal structures can easily be damaged during dissection as one searches for a gall bladder that does not exist. The absence of normal anatomical structures and the inability to pull on the gall bladder to dissect the Calot's triangle represents a risk of iatrogenic injury. Laparoscopic and abdominal surgeons operating for biliary tract diseases should be aware of this rare anomaly to avoid biliary injury.

REFERENCES

1. Singh B, Satyapal KS, Moodley J, haffejee AA. Congenital absence of the gall bladder. *Surg Radiol Anat* 1992;21(3):221-4.
2. Vanderpool D, Klingensmith W, Oles P. Congenital absence of the gall bladder. *Am J Surg* 1964; 30:324-30.
3. Nadeau LA, Clotier WA, Koneckie JT et al. Heheditary gall bladder agenesis—twelve cases in the same family. *The J of the Maine Med Ass* 1972; 63:1-4.
4. Surgue M, gani J, Sarre R. Ectopia and agenesis of the gall bladder. *Aust N Z J of Surg* 1991;61:816-18.
5. Toufseeq Khan TF, Baqai FU. Agenesis of the gall bladder with duplication cysts of the hepatic flexure-A case report and literature review. *Singapore Med J* 1992; 34:81-4.
6. Bennion RS, Thompson JE, Tompkins RK. Agenesis of the gall bladder without extra biliary atresia. *Surg* 1988; 123:1257-60.
7. Dickinson CZ, Powers TA, Sandler MP, Partain CL. Congenital absence of gall bladder: another cause of false positive hepato biliary image. *J Nucl Med* 1984; 25(1):70-2.
8. Frey C, Bizer L, Ernst C. Agenesis of the gall bladder. *American journal of Surgery* 1967;114:917-26
9. Fischella PM, Di Stefano A, Di Carlo I. Isolated agenesis of gall bladder report of a case. *Surg Today* 2002;32(1):78-80.

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