A rare case of gall bladder containing accessory lobe of liver stuck to its wall: A case report

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Abstract

Introduction: Accessory liver lobe (AL) is generally due to either faulty or excessive development of the liver. It is a very rare entity and has been reported in only less than 100 cases to date. Excessive development of liver tissue may cause this morphologic variation in AL. Liver dysfunction and abdominal pain may be complained by the patient sometimes, it remains asymptomatic. It may be encountered during laparoscopy, laparotomy, autopsy, and radiologic studies. We are reporting this interesting case of AL, encountered first time in our hospital.

Case Presentation

A woman aged 71 years, SD, presented to the outpatient department (OPD) with mild pain in the right upper abdomen, along with a history of hypertension and hyperlipidemia. She was on antihypertensive and lipid-lowering agents. On examination, her pulse and blood pressure were within normal limits. Per abdominal examination revealed no tenderness or palpable gall bladder. Her complete blood count, liver function tests, lipid profile, and blood sugar were within normal limits. An ultrasound of the abdomen was performed, which revealed cholelithiasis. Laparoscopic cholecystectomy was performed and we discovered a small liver-looking tissue stuck to the anterior wall of the gall bladder, which was removed along with the gall bladder. Subsequently, the tissue was confirmed to be liver tissue. It is a rare variation of the accessory lobe of the liver attached to the gall bladder. It remains asymptomatic clinically and may pose a danger of transforming to hepatocellular carcinoma; hence, total excision of the lobe should be considered.

Keywords: Accessory liver, balloon degeneration, hyperlipidemia, laparoscopic cholecystectomy

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The histopathological report of cholecystectomy specimen showed features of chronic cholecystitis. Histopathology report of the accessory lobe of the liver showed a fairly circumscribed liver tissue with cords of hepatocytes, showing balloon degeneration, normal Kupffer’s cells, and dilated central venules. The portal triads showed dilated veins with a few ductules and an artery with surrounding chronic inflammation in the fibrocollagenous tissue. There was no evidence of malignancy and the findings were in favor of balloon degeneration of the accessory liver. The report of balloon degeneration with chronic inflammation of the AL suggested possible steatohepatitis, which was expected in our case as she was a known case of hyperlipidemia and was on hypolipidemic drugs.

**Discussion**

AL is a very rare entity and is caused due to a developmental error during the third week of gestation when the development of the endodermal caudal foregut and segmentation of the hepatic bud takes place in a faulty manner. There may be two etiological factors—first due to increased intra-abdominal tension caused by the developing tunica muscularis recti and the ongoing liver enlargement and second a part of the developing liver, entrapped in the septum transversum and subsequently pulled by the weight of the intra-abdominal liver. AL is generally discovered in different intra-abdominal areas, such as the gallbladder, liver under-surface, gastrohepatic ligament, near the umbilicus, adrenal glands, or pancreas. Extra-abdominally, AL has been detected in the left thoracic cavity also.

Two types of classifications have been described in the literature. Based on the biliary drainage and the presence or absence of a common capsule, three types of AL are encountered. Type I, where a separate accessory lobe duct drains into the normal liver through an intrahepatic bile duct. Type II, where a separate accessory lobe duct drains into the normal liver through an extrahepatic bile duct. Type III, where an accessory lobe remains with the normal liver in a common capsule and the bile duct of the accessory lobe drains through an extrahepatic duct. Based on the gross anatomical connection of AL to the liver, it has been categorized into three broad headings. First, AL is attached to the liver via a stalk; second, AL is detected as a tongue-like projection from the anterior edge of the liver and a definite stalk is missing (Riedel's lobe); and finally, ectopic AL is located outside the liver with no connections to the liver. Our case belongs to type 3 of the latter classification.

Due to its rarity, the true incidence of AL is difficult to establish. In a study during observations done by laparoscopists, the incidence of AL was found to be 0.7%. Because AL can be a source of liver dysfunction, torsion, bleeding, and hepatocellular carcinoma formation, the preoperative diagnosis is very important, although practically it is not possible always. In this index case, it was not detected preoperatively and diagnosed only during the surgery.

There has been a debate in the management of AL. Some schools believe in no treatment protocol but others think that there is a role of surgery, especially where patients with AL are presenting with complications such as torsion, rupture, and malignant transformation.

Although patients with AL have been usually found asymptomatic, they can present with pain in the abdomen, chest pain, nausea, or vomiting on rare occasions. Ectopic AL may transform into hepatocellular carcinoma, resection of the AL is considered to be curative with a good prognosis.

The aim of this presentation is to make the primary care physicians aware of this rare congenital anomaly because the patients with pain in the upper abdomen usually report to them primarily and the physicians may prime the patients and the referring surgeons about this anomaly to reduce the complications of AL.

**Conclusion**

AL is rare, found incidentally during surgery, and usually remains clinically silent in most cases. Very rarely, AL has been encountered with the development of hepatocellular carcinoma in a few reports. Although it is not diagnosed routinely preoperatively by ultrasound, it is still important to reduce an inadvertent injury to the biliary system during surgery, especially by laparoscopy. A high index of suspicion is mandatory to recognize and to completely remove AL, found preoperatively or during unrelated surgical procedures.

The key points to remember are
1. AL is rare.
2. Preoperative diagnosis is difficult and AL is usually detected during surgery.
3. AL May pose complications such as inadvertent injury and malignant transformation.
4. A high index of suspicion is required for diagnosis, and complete removal is the answer.

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**Conflicts of interest**
There are no conflicts of interest.

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