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Case Report

CHORISTOMAS: AN INCIDENTAL ECTOPIC LIVER: CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT

Ectopic liver is a rare entity identified most commonly during abdominal exploration for other indications. Liver ectopia is less common than accessory liver and can be associated with multiple other congenital anomalies. We present a case of a fourty-nine year old female, who presented for elective laparoscopic cholecystectomy for symptomatic cholelethiases. Abdominal exploration showed an ectopic liver segment attached to gall bladder and draining through it with no other connections to the liver.

KEY WORDS: Ectopic, Liver, Choristoma, Conginital Anomalies.

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INTRODUCTION

Ectopic liver is a rare entity identified most commonly during abdominal exploration for other indications. Liver ectopia is less common than accessory liver and can be associated with multiple other congenital anomalies.

CASE REPORT

A 49-year-old female patient presented to the emergency room with several months history of recurrent attacks of right upper quadrant pain, colicky in nature and associated with nausea and non-bilious vomiting. Pain was typical of biliary colic. She has no significant past medical or surgical history.

Examination revealed right upper quadrant tenderness. All blood tests in the emergency department including liver function tests were within normal limits.

She had done previously a CT scan that showed several gallstones in the gallbladder and a normal common bile duct. She was discharged from the emergency room after pain control and later presented for an elective laparoscopic cholecystectomy which was completely uneventful. During surgery, we noticed an ectopic liver tissue on the gallbladder attached to the liver by a pedicle and attached to the duodenum by adhesions (Figure 1, 2). So adhesions were removed and the connecting pedicle to the liver was clipped and cut (Figure 3). The patient had an uneventful postoperative recovery and remained symptom-free after discharge.

Histo-pathologic examination demonstrated normal hepatic tissue and showed that the connecting pedicle to the liver was only fibrous

with no bile duct or blood vessels, thus indicating a completely separate ectopic liver tissue.

Fig. 1: Ectopic liver tissue on the gallbladder attached to the liver by a pedicle and attached to the duodenum by adhesions.

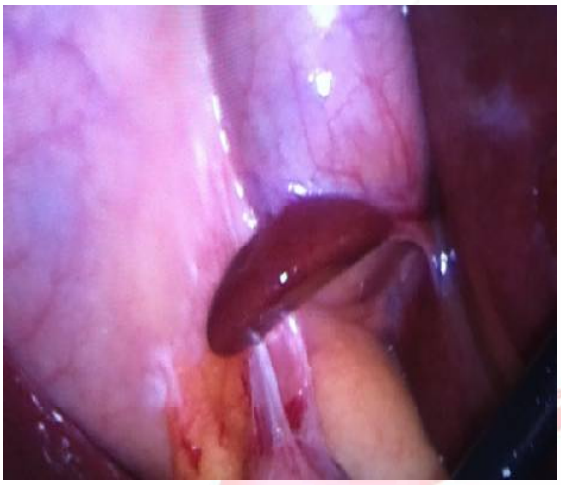


Fig. 2: Ectopic liver tissue on the gallbladder attached to the liver by a pedicle and attached to the duodenum by adhesions.

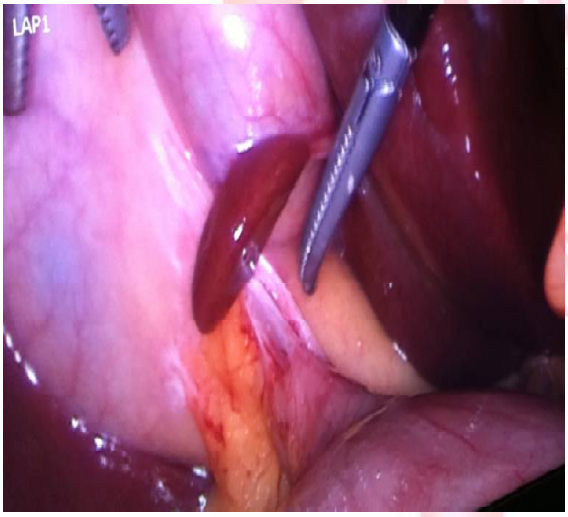
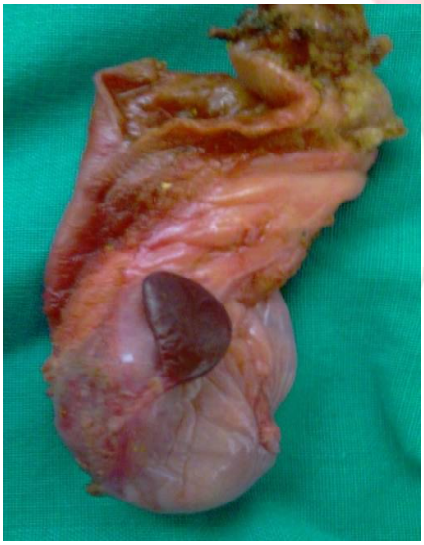


Fig. 3: Specimen showing gallbladder with ectopic liver segment after retrieval.



DISCUSSION

Ectopic liver is a rare entity identified most commonly during abdominal exploration for other indications. Anatomic anomalies of the liver have been classified as accessory lobe of the liver with attachment to native liver, and ectopic liver tissue without connection to the liver proper [1].

Liver ectopia is the least common of the two abnormalities described. Ectopic liver has been found above and below the diaphragm. Gallbladder-associated ectopic liver is the most common intra-abdominal location, and reports of size range from microscopic tissue to 3 cm [2,3].

Anatomists have described the presence of ectopic liver lobes in the perinatal liver (11.5% of cases [4]. The persistence of these ectopic tissues markedly drops in the adult (>0.5% based on autopsy) [5]. They can be found on the gallbladder, hepatic ligament, thorax and the retroperitoneum [6].

A simple classification for anomalous liver tissues found on the wall of gallbladder is: Accessory liver lobe, ectopic nodule or aberrant microscopic tissue. Ectopic nodules of liver tissue attached to the gallbladder are completely detached from the liver and has been described by various names such as accessory lobe, ectopic liver, accessory liver and heterotopic liver but the specific pathological term for this entity is choristoma introduced by Albert in 1904 meaning displacement. Several possible mechanisms may explain ectopic liver at various sites such as the development of an accessory lobe of the liver with atrophy or regression of the original connection to the main liver or migration of pars hepatica to the rudiment of various organs [7].

Ectopic liver is sometimes associated with other congenital anomalies such as biliary atresia [8], agenesis of the caudate lobe, omphalocele, bile duct cyst [9] or cardiac anomalies [10], but not when the heterotopic tissue is in the gallbladder. Although the ectopic tissue is usually attached to the serosa of the gallbladder or lies within its wall, it can also occur in the gallbladder lumen [11].

The natural course of ectopic liver tissue is

unpredictable. The anomaly is relatively common in the perinatal period but disappears during postnatal remodeling. Hepatocytes in an ectopic liver behave like normal hepatocytes and show the same pathological findings as those of the main liver. Thus, ectopic liver in the gallbladder can undergo fatty change, haemosiderosis, cholestasis or cirrhosis. Ectopic liver tissue is also at increased risk of carcinogenesis [12].

Of 48 cases (excluding those with a gallbladder location), 22 developed hepatocellular carcinoma whereas only one of 33 cases of ectopic liver attached to the gallbladder developed cancer ($p < 0.001$, Student's t-test) [13]. A possible explanation for this difference is that ectopic liver attached to gallbladder is an anomaly occurring later during late embryogenesis and is therefore well differentiated [13].

In our case, the liver tissue was connected to the liver by a fibrous band with no vascular or biliary connection as showed by histo-pathologic examination; thus indicating an ectopic liver tissue. This case followed the expected course on pathology with normal liver tissue and no evidence of malignancy as for ectopic liver tissue with gallbladder location.

There are too few case reports for definitive treatment to be clear-cut. It would be sensible to resect the ectopic tissue if encountered during cholecystectomy for gallstones, but to leave it alone if seen incidentally during other procedures [12].

Conflicts of Interests: **None**

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