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Hepatobiliary Surgery

CASE REPORT- ECTOPIC LIVER TISSUE IN THE GALL BLADDER: A RARE ENTITY

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ABSTRACT Ectopic liver tissue (ELT) is a rare clinical entity that any surgeon faces in their career. Due to the association or propensity to develop hepatocellular carcinoma, this disease has gained clinical importance, and surgeons ought to be aware of the possible intervention and complications that can be associated with it. Incidence has been reported to be 0.24%-0.47%, with the gall bladder being the most common site. Anatomically, ELT in the gall bladder derives its blood supply either from the vascular pedicle arising with or without its own vein from the liver parenchyma or from branches of the cystic artery and, sometimes, through vascular structures embedded within the mesentery lying adjacent to the liver parenchyma. Surgically, it becomes important to delineate the blood supply because, often, the operating surgeon might encounter uncontrollable bleeding if the blood supply has been derived from the liver parenchyma itself. Complications that can be associated with ectopic liver are torsion, bleeding into the peritoneum, cirrhosis, and, sometimes, lead to malignant degeneration to hepatocellular carcinoma. It can be due to metabolic inactivity owing to less efficient vascular and biliary ductal systems, which sometimes might be confused for occult metastases from a primary hepatoma. Gall bladder-associated ELT is best managed by en bloc resection via laparoscopic cholecystectomy, which suffices if the biopsy comes out to be negative. However, as the risk of malignant degeneration still exists in about 3% of cases, some patients might need to undergo a second surgery for a negative resection margin and regional lymphadenectomy.

KEYWORDS : Ectopic Liver tissue; Hepatic choristoma; Liver; Gall bladder; Hepatocellular carcinoma; Laparoscopic Cholecystectomy

Introduction:

Ectopic liver is a rare congenital developmental abnormality of the position of liver tissue with an estimated incidence of 0.24–0.48 % and a prevalence rate of 0.47 % [1].There are two forms of abnormal position of liver tissue: ectopic liver with no connection with the mother liver and accessory lobe of ectopic liver, where the connection exists. In a laparoscopic series of 1060 cases, the incidences of ectopic liver with no connection and accessory lobe of the liver were 0.47 % and 0.09 %, respectively [2]. Ectopic livers are generally small in diameter and do not often cause clinical symptoms. For these reasons the diagnosis of ectopic liver in the majority of cases is made incidentally during surgery, laparoscopy or autopsy. It may be localized in the majority of cases in the walls of gallbladder but also in other sites in the abdominal cavity or in thoracic cavity [3]. Here we report a case of EL adherent to the gallbladder, removed at laparoscopic cholecystectomy.

Case Report:

A 45-year-old male was admitted for elective cholecystectomy having had an episode of acute mild biliary pancreatitis. During the procedure, a 30 mm×10 mm×5 mm piece of ectopic liver tissue was found attached to the anterior wall of the gallbladder; it was identified and removed en-bloc with the gallbladder during laparoscopic cholecystectomy. Histological examination confirmed hepatic tissue with no malignant degeneration. The postoperative course and follow up was uneventful.

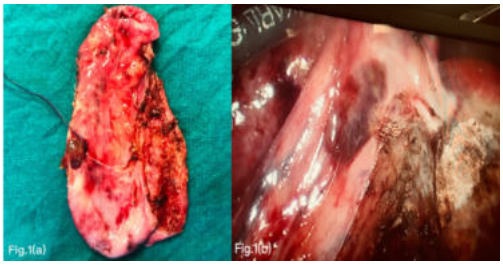

Figure1(a):Intraop picture of Lap cholecystectomy showing Gallbladder with ectopic liver tissue.

Figure1(b): Gallbladder specimen with ectopic liver tissue marked with suture.

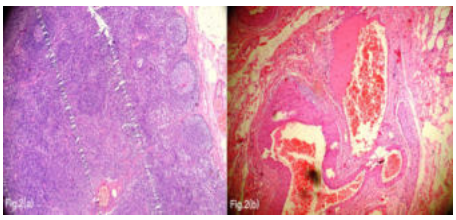

Figure2(a) Section from gall bladder specimen showing lamina propria and submucosal fibrosis suggestive of chronic inflammatory changes. Figure2(b): Encapsulated liver tissue with normal histological features

Discussion:

The liver develops from the hepatic diverticulum in the fourth week of gestation. It derives from an endodermal bud from the most caudal part of foregut and projects into the septum transversum [4]. The hepatic diverticulum differentiates into cranial or pars hepatica portion from which will derive the future liver and caudal or pars cystica portion from which the future gallbladder and cystic duct will derive [5]. Most researchers believe that the cause of ectopic liver is an aberrant migration during the embryologic development of the liver. Hepatocytes in an ectopic liver behave like normal hepatocytes therefore they share the same risk factors for fatty changes, haemosiderosis, cholestasis or cirrhosis as hepatocytes in the mother liver. It is important to assess the fact that they may demonstrate an increased risk of carcinogenesis likely secondary to incomplete anatomic architecture and metabolic derangement [6].

Different sites of locations intrathoracic and intraabdominal have been reported. The majority of the intrathoracic ectopic or accessory liver lobes were connected to the orthotopic liver by means of a small pedicle that pierced the diaphragm or passed through a small hiatus [7]. From intra abdominal sites the most frequent site where are found the majority of ectopic livers is the gallbladder. Occasionally ectopic liver have been found in other organs like stomach [8], in the upper pole of the

spleen [9], in the ligamentum hepato-umbilicalis [10], in the pancreas [11], kidney [12], left adrenal gland [13] or have been found as intracaval floating mass [14,15]. From the review of the literature a few cases of ectopic liver have been reported in the walls of stomach as submucosal tumors [8] or attached to serosa of stomach [16].

Conclusion:

To conclude, though gall bladder-associated ELT is a rare anomaly, surgeons might encounter it during their surgical career, and as various reports in the literature quoted the chances of malignancy, proper histopathological evaluation and patient follow-up is mandatory. This case report is the first of its kind from this region, and we believe this highlights the importance of ELT in the gall bladder although rare, EL should be recognized and removed to prevent the risk of complications and malignant transformation.

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