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Multiple Hepatic Ectopics Over the Gall Bladder : A Rare Finding During Laparoscopic Cholecystectomy

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Ectopic liver tissue is a rare clinical entity reported to occur at several intraperitoneal, retroperitoneal and extraperitoneal sites, both above and below the diaphragm. The overall reported incidence of this phenomenon is 0.2 to 0.5%[1]. In the abdominal cavity, gall bladder seems to be the anatomic structure most commonly affected[2]. Ectopic liver can be rarely diagnosed before surgery because of the absence of symptoms. This condition is associated with some definite clinically relevant complications, benign as well as malignant[3]. Therefore, it becomes necessary for the clinicians to have adequate knowledge of the inherent complications and associated pathologies of this phenomenon. Though cases of gall bladder associated hepatic ectopics have been mentioned in literature, multiplicity of this phenomenon being an extremely rare finding has not been reported previously.

Case Report

A middle aged woman got admitted with 6 months history of recurrent biliary colic, dyspepsia and nausea. Abdominal ultrasound was suggestive of multiple gallstones with normal gall bladder wall thickness. Liver function tests were within normal limits. Intraoperative findings on elective laparoscopic cholecystectomy showed multiple sessile hepatic ectopics attached to the gall bladder serosa (Collan type a4). Cholecystectomy was completed with en bloc removal of all the nodules.(**Figure1 and 2**) Patient had an uneventful recovery and was discharged on second postoperative day. Histopathological examination of the specimen revealed chronic cholecystitis and confirmed the presence of ectopic liver tissues containing normal hepatic elements without any changes of architectural distortion or malignant degeneration.

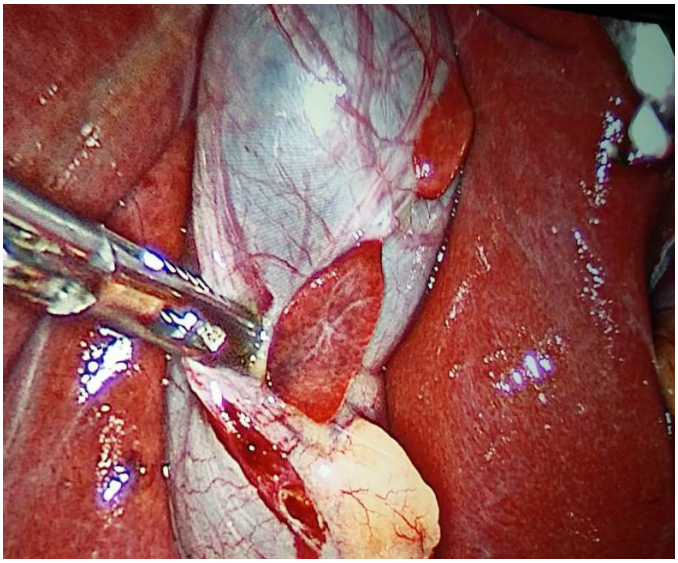

Figure 1: Intra-operative view of multiple ectopic liver tissues attached to the gall bladder.

Discussion

Anatomic anomalies of the liver have been classified into two variants. First being an accessory lobe of the liver with attachment to the native liver and another category of presence of an ectopic liver tissue without connection to the liver proper. Hepatic ectopia is the less common of the two anomalies[1]. Gall bladder associated ectopic liver tissue is the most common, other sites being gastrohepatic ligament, umbilical ligament, omentum, stomach, mediastinum, lungs, heart and pleural cavity[3]. Because of the lack of symptoms and small dimensions, diagnosis of ectopic liver attached to the gall bladder is uncommon before surgery and is usually discovered intraoperatively or at autopsy.

Several theories have been proposed to explain the development of ectopic liver at different sites; development of accessory lobe of the liver with atrophy or regression of the original connection to the main liver, migration or displacement of the pars hepatica of the liver bud to other sites, dorsal budding of hepatic tissue before closing of the pleuroperitoneal canals, trapping of the hepatocyte destined mesenchyma in different areas and entrapment of nests of cells in the region of foregut following closure of the diaphragm or umbilical ring. Collan *et al*[4] divided ectopic liver tissue into four distinct categories: a) EL that is not connected to the main liver and is usually attached to the gall bladder or intra-abdominal ligaments b) microscopic ectopic liver found in the gall bladder wall c) large accessory liver attached to the mother liver by a stalk d) a small accessory liver lobe attached to the main liver.

Symptoms occur rarely, and ectopic livers have been reported to cause recurrent abdominal pain due to torsion, intraperitoneal bleeding, compression of adjacent organs as well as obstruction of the esophagus, portal vein, neonatal gastric outlet and pylorus.

Incidences of other congenital anomalies such as biliary atresia, agenesis of caudate lobe, omphalocele, bile duct cyst and cardiac anomalies have been reported with ectopic liver, but not when the heterotopic tissue is in the gall bladder.

Hepatocytes in an ectopic liver behave like normal hepatocytes and show the same pathological findings as those of main liver and undergo steatosis, hemosiderosis, cholestasis and cirrhosis[3]. There has been evidence to suggest that ectopic liver is at an increased risk of developing hepatocellular carcinoma too. Infact, it has been hypothesized to be more susceptible for the development of malignancy because of lack of complete vasculature or ductal system and is functionally impaired[5]. Complete removal and proper histopathological examination therefore becomes imperative in scenarios of its incidental detection.

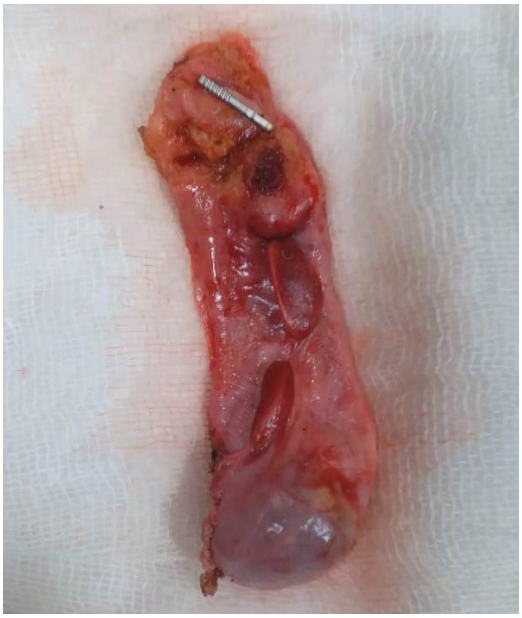

Figure 2: Extracted gall bladder enbloc multiple hepatic ectopics.

In our case multiple ectopic liver tissues were found attached to the gall bladder serosa which is an extremely rare clinical scenario. Whether this finding poses an additional risk for complications or altered symptom profile, can not be ascertained on the basis of a single case report and needs to be addressed further.

Conclusion

Gall bladder associated ectopic liver tissue is a rare hepatic developmental anomaly, multiple ectopics being the rarest. It carries a risk of multitude of complications, therefore, it should be recognized, removed completely and sent for histological examination in every case. Multiple hepatic ectopics is a rare finding, and to our knowledge, it has never been reported in literature so far.

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