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Accessory Lobe of Liver - An Uncommon Encounter in an Uncommon Scenario of a Gastrobezoar

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Abstract: ***Accessory liver lobes are a rare condition and appear to be due to excessive development of the liver. This article is about the accidental finding of accessory lobe of the liver while operating a gastrobezoar for obstruction. It was a rare variant of the anomaly which then needed expertise handling of tissues during surgery hence requiring reporting for the same.***

Keywords: accessory lobe, accessory groove, liver

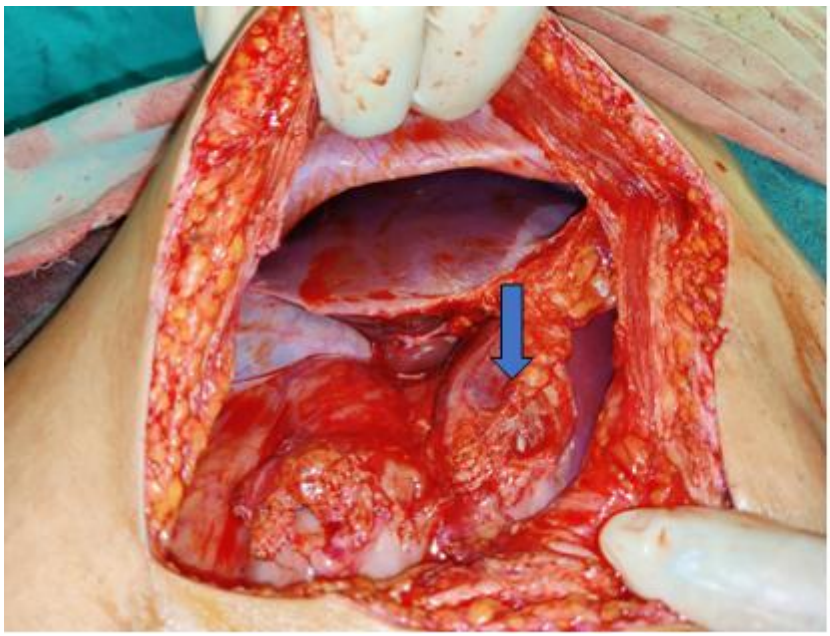
1. Introduction

The liver, wedge - shaped largest abdominal viscera which occupies a substantial portion of the righthypochondrium and even spreads into the left hypochondrium up to the left axillary line, and is segmented into right, left, caudate and quadrate lobes based on the peritoneal attachments externally [1, 2]. The liver, being a very dynamic organ, undergoes rapid growth from infancy to adulthood, but gross anomalies of the liver are rare.

Although accessory lobes of the liver are less known compared to vasculobiliary variations, a good understanding of the classical anatomy as well as potential anatomic variations is crucial for successful liver operations [3]. The prevalence of this variation is considered to be less than 1% and this congenital ectopichepatic tissue is most commonly caused by embryonic heteroplasia but it can also be an acquired one which is even very rare due to trauma or surgery [4].

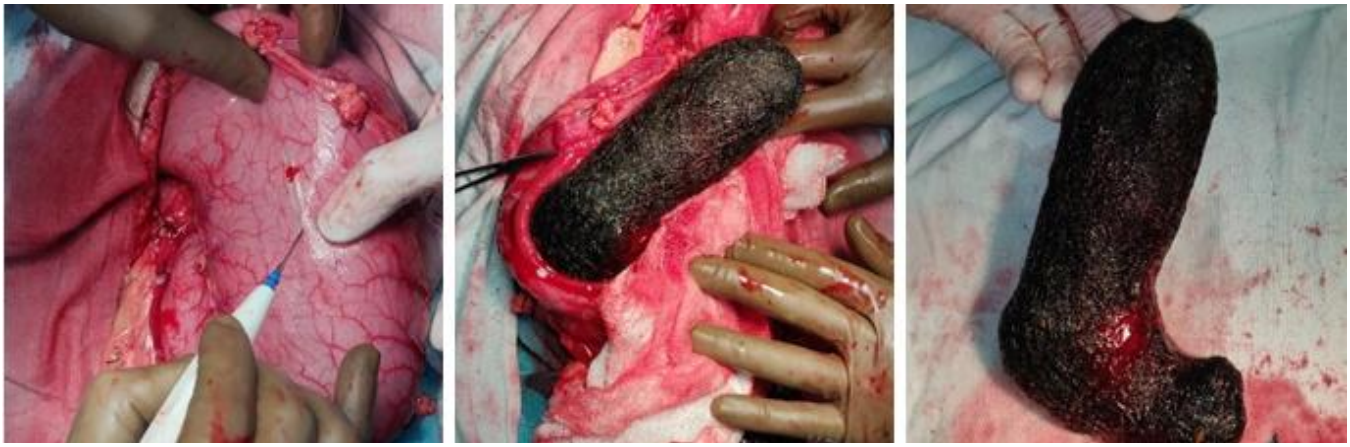
2. Case Report

A 30 year old male was brought to the Emergency of M. Y. Hospital for features of acute obstruction - pain abdomen with discomfort in upper abdomen, nausea and retching for 2 days and history of reduced appetite for about 5 - 6 months. The past history revealed that the patient was on antipsychotics for trichotillomania and trichotillophagia with poor compliance for drug intake. On examination, upper abdomen was distended and USG abdomen demonstrated curved echogenic layer with a posterior shadow in upper abdomen. Patient was suspected to have a gastrobezoar and was taken was emergency surgery to relieve the obstruction.



Accessory lobe of liver marked with blue arrow.

Patient was initially resuscitated and with written and informed consent, taken in for emergency surgery. Abdomen was explored through a right subcostal or Kocher's incision to first find an abnormal structure left of the midline in upper abdomen - it was oblong in shape, soft to firm in consistency with texture of the liver, traced to then be arising from the second and third lobes of liver, encompassing the area above the lesser sac of stomach. This was accompanied by a trichobezoar, the surgery for which was further complicated by presence of the accessory lobe right above the sac, making accessibility and visualization difficult. This uncommon finding was noted and trichobezoar removed in - toto.



Removal of the gastrobezoar

3. Discussion

Most congenital malformations related to organs require knowledge of their embryological genesis in order to properly define them, accessory lobe of the liver is a supernumerary liver lobe with normal hepatic parenchyma which is in continuity with the normal liver tissue [4, 5]. These are usually incidental findings during routine dissection, autopsy, or during surgical procedures [6].

During the fourth week of intrauterine development, the hepatobiliary system develops from the hepatic diverticulum - a ventral outgrowth from the distal part of the foregut [7]. According to previous literature, presently there are two hypotheses regarding the development of the accessory lobe of the liver, one theory claims that during early stages of development, the embryonic liver curls outwards and forms an accessory lobe while other claims that an accessory lobe develops as a result of increased intra - abdominal pressure bythe rapidly developing liver [8, 9].

Collan et al. classified the accessory lobe of the liver into four types - a large accessory liver lobe connected to the main liver by a connective tissue strand; a small accessory liver lobe connected to the main liver, weighing 10 - 30g; an ectopic liver that is not in contact with the liver proper and is primarily attached to the gallbladder or intra - abdominal ligaments; and a microscopic liver ectopic found in the gallbladder wall [10].

There are similar classifications by Gurba et al. and Tancredi et al. based on the weight and volume of the accessory lobe of the liver [11, 12].

Stattaus et al. have given an alternative classification of the accessory lobe of the liver with clinical implications, into pedunculated and sessile one [13]. In the present case, the accessory lobe of the liver is a small lobe attached to the normal liver parenchyma and it was a sessile lobe.

Pedunculated lobes can undergo torsion which results in infarction and at certain times they can act as points of bleeding also, but this is very rare, and the patient presents with acute abdomen and there are reported cases of malignant transformation of this accessory lobe of the liver. And sometimes they can be misdiagnosed as an enlarged lymph node or a tumor since they vary in location [14].

Accessory hepatic fissures can mimic pathological liver nodules on CT, and they can also act as points of implantation for peritoneally disseminated tumors [2, 5, 14]. Accessory hepatic lobes are presumed to be asymptomatic since they are most commonly an incidental finding or seen in cadavers, but sometimes they are associated with congenital anomalies in the pediatric population. Ito et al., Elmasalme et al., Grunz et al., Sanguesa et al., and Koplewitz et al. have described about the association of omphalocele and accessory lobeof the liver in the pediatric population. The age of diagnosis was between one day to 14 years for the children, the possible cause than be the increased intra - abdominal pressure. Azmy et al. have described about the association of the accessory lobe of the liver in a child with Beckwith - Wiedemann Syndrome. Bladder exstrophy, umbilical hernia and renal agenesis was described by Ladurner et al. [15]

4. Conclusion

There is no need to treat patients with an ALL who have no symptoms or complications (16). Resection of the accessory lobe of liver (ALL) should be performed in adults with serious complications. Patients are reported to have a satisfactory prognosis. There is no need to treat patients with a sessile ALL connected to normal liver tissue or completely separate ALL if they have no symptoms or complications. Ours was a rare variant of the anomaly which then needed expertise handling of tissues during surgery hence requiring reporting for the same.

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