

Anomalies of Foetal Liver in South Indian population: Case Study

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Abstract: We have observed liver anomalies in two aborted fetuses during routine dissection for the medical undergraduates at Sri Venkateswara Medical College, Tirupati, Andhra Pradesh. We have observed one foetus with tongue like projection in left lobe and in other case ligamentum teres tunnel with extended left lobe. Multiple internal congenital anomalies like absence of left lung, microtia on left side and other congenital anomalies were also observed. The larger left lobe is almost equally sized or more than the right lobe considered as accessory lobe of Liver which is in agreement with the previous literature. Anatomical variations in the human liver could be valuable in improving diagnostic procedures and pathological conditions associated with some liver diseases.

Keywords: Extended lobe, Ligamentum teres, Tunnel.

INTRODUCTION

Embryonic heteroplasia results in rare anatomical malformation termed as accessory lobe of the liver. There are two types of accessory lobe of liver, an accessory lobe joined to normal hepatic tissue and a lobe that is completely separate from the tissue [1]. Completely separated tissue from the liver considered as ectopic liver [2, 3]. The fibrous remnant of the left umbilical vein during development is known as round ligament of liver also known as Ligamentum teres. It extends from the umbilicus to the left branch of the portal vein, within the liver. During the intrauterine life, it provides oxygenated and nutrient-rich blood from the placenta to the foetus [3]. The ligamentum teres with small paraumbilical veins lie in the free margin of the falciform ligament and then enters its fissure extending from the inferior border to the left end of the porta hepatis on the visceral surface of the liver [4].

CASE REPORT

During routine dissections for the undergraduate we have observed liver anomalies in two aborted fetuses utilized from the Department of Anatomy, Sri Venkateswara Medical College, Tirupati. We have observed multiple internal anomalies in one foetus along with extended left lobe (tongue like projection) in the liver which can be considered as accessory lobe of liver (Fig. 1). Multiple anomalies like absence of left lung, microtia on left side and some other intestinal malformations. We have observed another foetus with ligamentum teres tunnel along with extended left lobe of liver in our study (Fig. 2). Both the

cases we have noticed extended left lobe of liver; which can be considered as accessory lobe of liver.

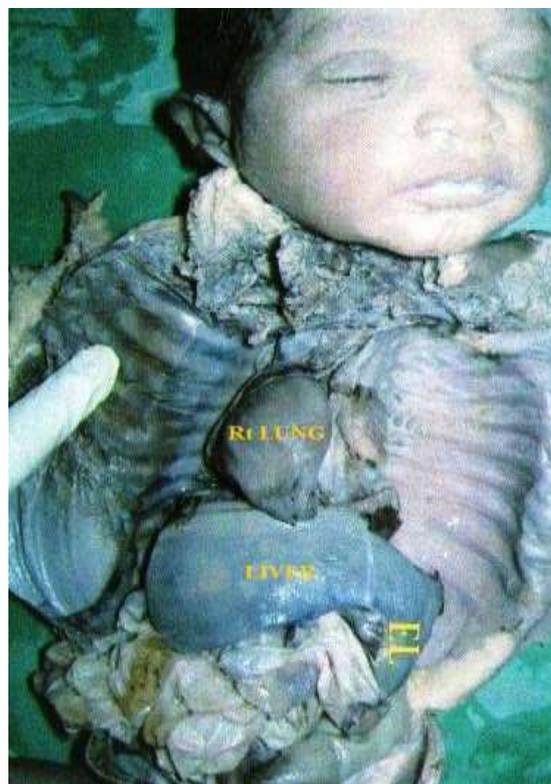


Fig. 1: Aborted foetus with anomalous liver (Extended Left lobe - Tongue like projection) and multiple Internal Congenital Anomalies

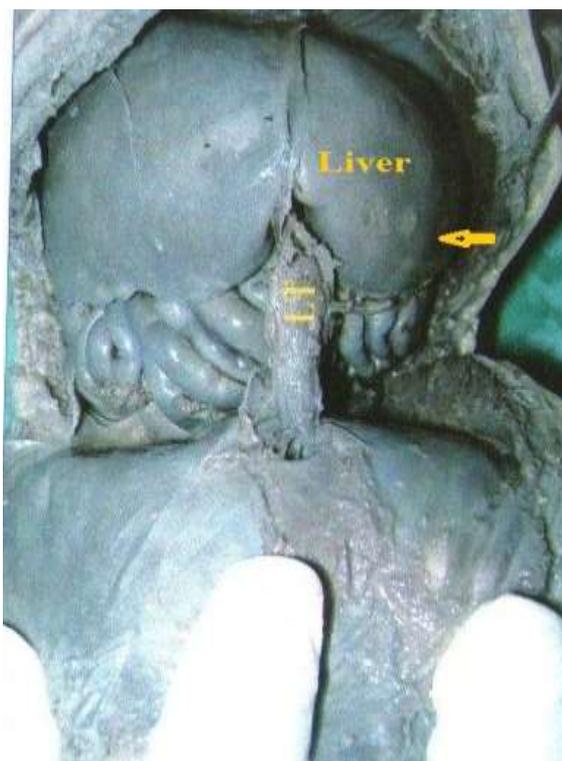


Fig. 2: Aborted foetus with anomalous liver (Extended Left lobe as Accessory Lobe) and ligamentum teres tunnel

DISCUSSION

Accessory lobe of liver is a rarely seen anatomical abnormality which is mostly the result of embryonic heteroplasia [5, 6]. The liver tissue in communication with the main liver is termed as an accessory lobe while ectopic liver termed as the liver tissue in the vicinity of the liver with no communication [2]. The left lobe of the liver extended entirely across the lesser curvature into the left hypochondrium, where it was flattened out at the extremity over the spleen [7]. Accessory lobes are most commonly found on the under surface of the liver, but have also been seen on the gall bladder surface, hepato-gastric ligament, near the umbilicus, adrenal gland, pancreas and the thoracic cavity accessory intra thoracic liver lobe [8-11].

The Left and right lobes of the liver are separated by the falciform and round ligaments in the second month of gestation. Lack of separation might often result in fusion of lobes during the embryonic period [12]. This could be one of the possible reasons for having a tunnel for ligamentum teres rather than a fissure [13]. The extended left lobe both the cases of our study considered as accessory lobe of liver due to communication with the liver tissue. If not, we may consider this extended lobe tissue as ectopic liver tissue [2].

In accordance to this, larger left lobe is almost equally sized or more than the right lobe considered as accessory lobe of Liver which is in agreement with the previous literature. The tunnel of ligamentum teres in our case report may be due to the lack of separation of lobes during development [14].

Sethi has stated that, there was enlargement of the left hepatic lobe in a hypoplastic right hepatic lobe liver. In our study, the right lobe was normal in its morphology [15].

CONCLUSION

Knowledge of human liver anatomical variations could be valuable in improving diagnostic procedures and pathological conditions associated with some liver diseases. Our study helps the clinicians and surgeons about the accessory lobar pattern and tunnel of ligamentum teres of the liver.

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