



**Introduction:**

Riedel's lobe is an inferior extension of the right lobe of the liver recognised as first an anatomical variant of the liver, but Variants of anatomy of the left lobe of the liver are less recognised.<sup>1</sup>

Knowledge of such anomalies important for radiologists in the interpretation of USG and CT images as the presence of the elongated left lobe of the liver misinterpreted as subcapsular splenic hematoma & also for clinicians as these elongated lobes may reach up to spleen & may be mistaken for splenomegaly<sup>2</sup>

It will be helpful for general surgeons, hepatobiliary surgeons including transplant surgeries.<sup>2</sup>

**Case report:**

During the routine cadaver dissection for Undergraduates, in department of Anatomy, Ashwini Rural Medical College & Hospital, Kumbhari, Solapur, lingular extensions of the left lobe, was noticed in a formalin embalmed middle aged female cadaver. The cause of the lingular extensions was not known. Neighbouring structures of the liver such as spleen, pancreas were found normal during dissection. The liver was taken

out and preserved under 10% formalin for further study.

Fixed planes for divisions of the left and right lobe of the liver was considered, which passed through the falciform ligament anteriorly and superiorly and through the groove for ligamentum venosum and teres hepatis inferiorly. Parameters of elongated part of left lobe such as length, breadth, thickness were measured (by taking arbitrary points) with measuring tape. The arbitrary points were taken at the base, middle, apex of the elongated parts, at the tuber omentale, at the upper end of the left lip of the groove for ligamentum venosum, and at the lower end of the left lip of the groove for ligamentum teres hepatis. This liver (weight 1150 gm) was compared with normal liver of almost similar weight (1176gm) and size, shape.<sup>1</sup>

Following observations were noted,

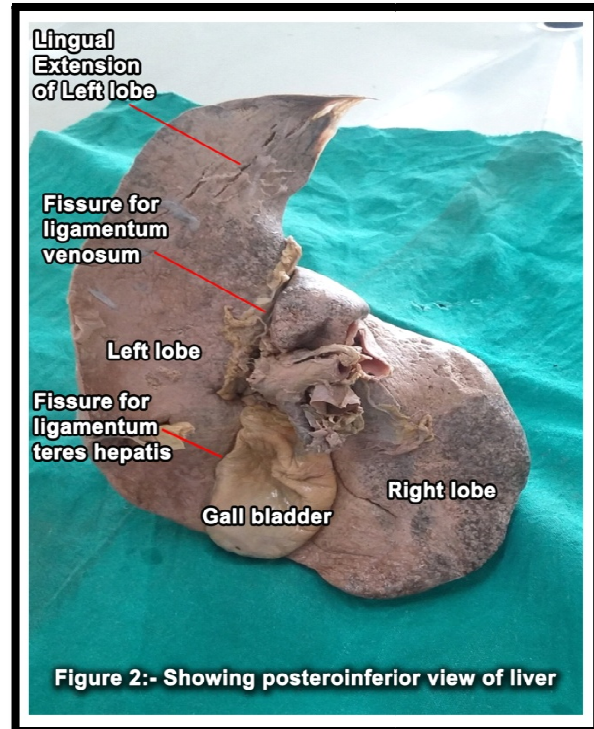
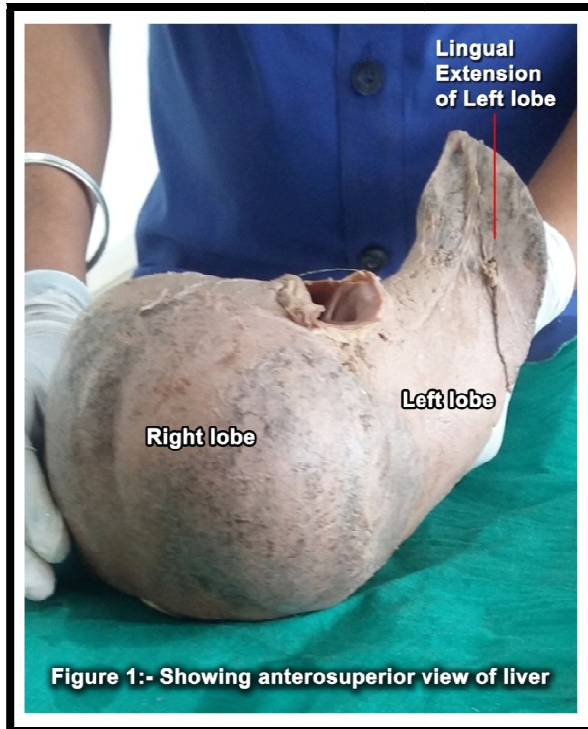
- 1) Neighbouring structures of the liver such as spleen, pancreas were found normal during dissection.
- 2) On gross examination, the colour, consistency, and texture of the elongated part similar to that of normal livers.
- 3) Following parameters were measured.

**Table 1 Measurements of elongated part of left lobe of liver.<sup>1</sup>**

Length	from mid-point of the arbitrary base to the apex of elongated part	8.7cm
Breadth	at the base	6.3cm
	at the middle	5.6cm
	Near the apex	3 cm
Thickness	at the base	1cm
	at the middle	0.8 cm
	Near the apex	0.5 cm
Sum		25.90
Mean		3.700
S.D.		3.209
S.E.M.		1.213

**Table 2:- Measurements of left lobe of abnormal liver and normal liver.<sup>1</sup>**

Measurements	Abnormal liver	Normal liver of similar weight and size
From upper end of left lip of groove for ligamentum venosum up to apex of left lobe	9.5cm	4.7 cm
From lower end of left lip of groove for ligamentum teres up to apex of left lobe	20 cm	15.8cm
From tuber omentale to apex of left lobe	14.6cm	7 cm
Sum	44.10	27.50
Mean	14.70	9.167
S.D	5.251	5.859
S.E.M	3.032	3.382



### Discussion:

#### Ontogenic review:

During development, the liver is the centre of haemopoiesis in the foetus. It develops from an endodermal evagination of the foregut and from the mesenchyme of the septum transversum. At three months of gestation, the liver almost fills the abdominal cavity and its left lobe is nearly as large as its right. When haematopoietic activity of the liver is assumed by the spleen and bone marrow, the left lobe undergoes some degeneration and becomes smaller than the right.<sup>3</sup>

#### Previously Recorded Cases:

- 1 ) Baruah P, Choudhury PR. found three livers with tongue-like elongation of the left lobes were found after dissection of 20 cadavers.<sup>1</sup>
- 2) Sethi SK, Solanki RS describe the radiological diagnosis of a liver with a hypoplastic right lobe with an elongated left lobe.<sup>4</sup> In present case normal right lobe was found.
- 3) ) Chiba S, Suzuki T, Kasai T recorded A tongue-like projection of the left lobe in human liver, accompanied with lienorenal venous shunt and intrahepatic arterial

anastomosis<sup>5</sup> In present case, no any such vascular abnormalities were found.

5) Custer JR, Shafer RB observed that the liver has been changed the shape after splenectomy with migration of the left lobe of the liver into the splenic bed in the left upper quadrant is often seen by surgeons immediately after removal of the spleen<sup>6</sup>. In present case, spleen was found in its normal anatomical position.

6) Hammond LJ., described that Gastric volvulus is usually associated with defective development of Left lobe of liver<sup>7</sup>

7) Deepa G.,Shivakumar GL found that Elongated left lobe may be misdiagnosed as distension of the splenic flexure of colon, gastroptosis, hydatid cyst or sarcoma of liver<sup>8</sup>.

8) Sharmila Aristotle observed that elongated left lobe may reach up to spleen and may be mistaken for splenomegaly.<sup>9</sup>

9) Dragica jurkovikj found that there can be different types of Left lobes: i) Extremely long Left lobes ii) Too flat like pancake; iii) Lingular prolongation (spatular), iv) Enlargement of Left lobe.<sup>10</sup>

### Conclusion:

Patient with lingular extension of left lobe of liver may present asymptotically or with non-specific abdominal or epigastric pain

or pressure symptoms, so for diagnosis of such cases imaging by USG or CT scan is recommended. So knowledge of such anomalies helpful to radiologist for diagnosis and also to surgeons in planning biliary surgery or portosystemic anastomoses.

**Conflict of interest: None to declare**

**Source of funding: Nil**

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