



**ORIGINAL RESEARCH PAPER**

**Anatomy**

**A CASE REPORT ON RIEDEL'S LOBE OF THE LIVER**

**KEY WORDS:**

<b>Dr. Amarjeet Kaur</b>	First year P.G. Scholar, P.G. Department of Rachana Sharira, J.S. Ayurved Mahavidyalaya, Nadiad, Gujarat.
<b>Dr. Seetharama Mithanthaya*</b>	Associate Professor, P.G. Department of Rachana Sharira, J.S. Ayurved Mahavidyalaya, Nadiad, Gujarat. *Corresponding Author
<b>Dr. Swati Bedekar</b>	Professor & Head, P.G. Department of Rachana Sharira, J.S. Ayurved Mahavidyalaya, Nadiad, Gujarat.
<b>Dr. Arpitha Shetty</b>	Assistant Professor, Department of Rachana Sharira, Govt. Akhandanand Ayurveda College, Ahmedabad, Gujarat.
<b>Dr. Vidhi Parmar</b>	Assistant Professor, P.G. Department of Rachana Sharira, J.S. Ayurved Mahavidyalaya, Nadiad, Gujarat.

**ABSTRACT**

Accessory Lobes of the Liver are related to excessive development. Riedel's Lobe is the commonest among them. The present article is documented on the anatomical variation of liver that was found during routine dissection. A tongue like projection was found in the quadrate lobe of the liver called the Riedel's Lobe<sup>1</sup>.

**INTRODUCTION:**

The liver is the largest gland of the body. Liver occupies the right and left hypochondriac, epigastric, and right lumbar region. The liver is wedge shaped with the base directed to the right, measuring about 1600 gm in male and 1300 gm in female<sup>2</sup>. The size depends on various factors like sex, body size, shape, and age.

The liver shows five surface and one prominent border. The surfaces are anterior, posterior, superior, inferior, and right. The inferior border which separate the inferior surface from anterior and right surface is prominent. Anatomically it is divided into right and left lobes by the attachments of falciform ligament, fissure for the ligamentum teres, and fissure for ligamentum venosum<sup>3</sup>.

The right lobe of the liver shows two lobes caudate lobe and quadrate lobe which are respectively present in the posterior and inferior surface. According to intrahepatic distribution of hepatic artery, portal vein and biliary ducts, the liver is divided into right and left functional lobes<sup>4</sup>. The right lobe is divided into anterior and posterior sectors, and the left lobe into medial and lateral sectors. Couinaud divided these sectors into eight segments of the liver – a. right anterior consists of V and VIII segments, b. right posterior consists of VI and VII segments, left lateral consists of II and III segments and left medial consists of I and IV segments. Caudate lobe is defined as segment I and the remaining segments are numbered in clock-wise pattern upto segment VIII<sup>5</sup>.

Riedel's lobe is a simple anatomical variation of liver. It is downward tongue like projection of the lobe of the liver. It is often present when liver extends caudal to most inferior part of costal margin. The first case of hepatic lobulation was described by Corbin in 1830 and Riedel in 1888<sup>6</sup>. Riedel's lobe is clinically significant, as it is often confused with hepatomegaly or abdominal mass.

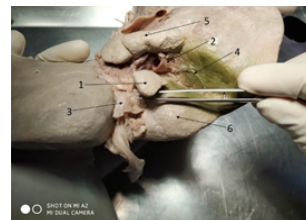
**CASE REPORT:**

During routine anatomy dissections, we observed an anatomical variation of liver – Riedel's lobe in the fourth segment of the liver in the infrahepatic region, in the quadrate

lobe of the liver, in a female cadaver in Department of Rachana Shareer, J.S. Ayurved Mahavidyalaya, Gujarat Ayurved University. We report a case of "85 years" age of female cadaver, with typical feature of Riedel's lobe of the liver of size 3.8×1.8 cm.

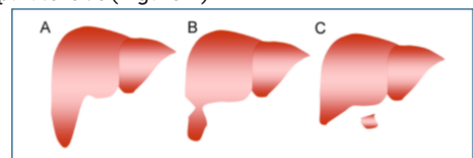
**DISCUSSION:**

The incidence of Riedel's lobe is rare. Its prevalence is less than 1%<sup>7</sup>. The incidence of riedel's lobe is 25% in 20-45 years old and 60% in 45-65 years old. It is more frequent in females with a Male:Female ratio of 1:3<sup>8</sup>. Accessory lobes of the liver are common. They are supernumerary in number, the normal liver parenchyma continuous with the original liver to form it which is also known as "Floating Lobe" or "Constriction Lobe"<sup>9</sup>. It is a tongue like projection, may be pyramidal in shape, infrahepatic and mostly found in fourth and sixth segment (Figure-1).



**Figure 1- Inferior view 1-Riedel's Lobe, 2-Porta Hepatis, 3-Fissure for ligamentum teres, 4- Fossa for Gall Bladder, 5- Caudate Lobe, 6-Quadrate Lobe**

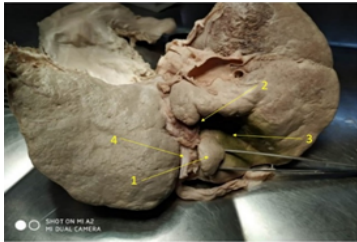
It may extend upto right flank or right iliac fossa. It has no separate blood supply. Whereas in "Ectopic Liver Lobe", there is no connection with the liver tissue and is considered as a separate lobe (Figure-1)<sup>10</sup>.



**Figure 2. Accessory or ectopic liver lobes. A. Sessile lobe (Riedel's lobe). B. Pedunculated lobe. C. Ectopic lobe.**

The mechanism of development of Riedel's lobe is unknown. But, it is both congenital and acquired. The congenital association is with the excessive disembryoplastic anomaly in development of hepatic bud 11. Cases of Lithiasic Cholecystitis, Cephaloscoliosis with wide thorax and skeletal anomalies have resulted in formation of Riedel's Lobe.

The Riedel's Lobe on postero-inferior surface of Liver is related to – Superiorly – Porta Hepatis, on Left side – Fissure for Ligamentum Teres, on Right side - Fossa for Gall Bladder (Figure-3).



**Figure 3- Postero-Inferior view 1-Riedel's Lobe, 2-Porta Hepatis, 3- Fossa for Gall Bladder, 4- Fissure for ligamentum teres**

Potential morbidities for patients with a Riedel's lobe include lobar torsion, obstruction due to mass effect, and interference with laparoscopic surgical procedures. The existence of Riedel's lobe actually can be presented with minor symptoms of acute or recurrent abdominal discomfort, nausea, constipation, or bloating caused by extrinsic compression or episode of torsion<sup>12</sup>. The portal vein gets obstructed by compression and leads to venous thrombosis. Bile ducts compression results in bile duct obstruction and produces symptoms like abdominal pain, nausea, vomiting, fever, loss of appetite and sudden weight loss.

#### CONCLUSION:

Riedel's lobe is an anatomical variation due to excessive development and is of surgical importance. They are most often located on the right lobe of the liver, attached by a pedicle that contains vessels and bile ducts. In the present case the additional lobe was found in the quadrate lobe which belongs to V-VI sector of the liver. The enlargement of this lobe may compress the contents of porta hepatis. Proper radiological imaging may help in identifying such abnormality of liver and in differential diagnosis of pathologies of liver like hepatocellular carcinoma. Laproscopic resection is indicated for removal of these lobes or tumors.

#### REFERENCES:

1. Datta A.K. Essentials of Human Anatomy. Volume 3. 4th ed. Current Books International; Reprinted 2013. P.262
2. Chaurasia B.D. Human Anatomy. Volume 2. 7th ed. CBS Publishers and Distributors; Reprinted 2017. P.332
3. Chaurasia B.D. Human Anatomy. Volume 2. 7th ed. CBS Publishers and Distributors; Reprinted 2017. P.333
4. Chaurasia B.D. Human Anatomy. Volume 2. 7th ed. CBS Publishers and Distributors; Reprinted 2017. P.336
5. Datta A.K. Essentials of Human Anatomy. Volume 3. 4th ed. Current Books International; Reprinted 2013. P.262
6. Christos Savopoulos. Riedel's Lobe of the Liver- A Case Report. Medicine Volume 94. Number 3. www.md-journal.com. January; 2015: 1-3
7. Juferdy Kurniawan. Riedel's Lobe: Clinical Importance of a Rare Variant in Liver Morphology. Acta Med Indones - Indones J Intern Med. Volume 49. Number 1. January; 2017:57-62
8. Sandra M. Salzman. Riedel Fight Song: a case report of riedel lobe presumed to be hepatomegaly. International Journal of Contemporary Pediatrics. Volume 3. Issue 3. July-September; 2016:1089-1091
9. Christos Savopoulos. Riedel's Lobe of the Liver- A Case Report. Medicine Volume 94. Number 3. www.md-journal.com. January; 2015: 1-3
10. M. Glenisson. Accessory liver lobes: Anatomical description and clinical implications. Journal of Visceral Surgery 151. October; 2014:451-455
11. Christos Savopoulos. Riedel's Lobe of the Liver- A Case Report. Medicine Volume 94. Number 3. www.md-journal.com. January; 2015: 1-3
12. Juferdy Kurniawan. Riedel's Lobe: Clinical Importance of a Rare Variant in Liver Morphology. Acta Med Indones - Indones J Intern Med. Volume 49. Number 1. January; 2017:57-62