

Riedel's Lobe of Liver Presenting as Content in Epigastric Hernia; Rare Case with Rarest Presentation: a Case Report

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ABSTRACT

Epigastric hernia is a rather common condition with a reported prevalence up to 10%. Only a minority are symptomatic, with a small amount of extraperitoneal fat as its content. It is usually a sacless hernia. Riedel's lobe of the liver is a simple anatomical variation, a downward tongue-like projection, from the anterior edge of the right lobe of liver to the right of gall bladder which is rare. We hereby report a case of 56 year old female patient who presented with a lump in epigastric region in midline. On investigation, it was found to be Riedel's lobe of liver which is a normal variant. Such a case where Riedel's lobe of liver is present as content in epigastric hernia, has never been reported in literature so far.

Keywords: Riedel's Lobe, Epigastric Hernia, Extraperitoneal Fat, Congenital Anomaly, Linea Alba

INTRODUCTION

Epigastric hernias are the second most common type of linea alba abdominalis defects in adults.^[1,2] These hernias occur from the xyphoid process to the umbilicus.^[3] These represent 1.6-3.6 % of all abdominal hernias and 0.5-5 % of all operated abdominal hernias.^[4] Epigastric hernias are 2-3 times more common in men, with a higher incidence in patients aged from 20 to 50 years.^[3,5] These hernias present as small masses usually with incarcerated preperitoneal fat between the umbilicus and xyphoid process. Epigastric hernias do not resolve and should be treated. The defect is often small and may often be appreciated by clinical examination or appropriate radiological studies. It typically contains a small amount of preperitoneal fat but can be large enough to contain omentum and sometimes bowel.

The liver is an internal organ with various anatomical variations, for both vascular and biliary tract structures. In some cases, the liver can be palpable due to anatomical reasons or underlying abnormal conditions.^[6] In clinical practice, congenital abnormalities of liver are comparatively rare.^[7] One of the abnormalities reported several times is the Riedel's lobe, defined as a downward tongue like projection of the anterior edge of the right lobe of liver to the right of the gall bladder.^[8] The reported incidence of Riedel's lobe in general

population considerably varies from 3.3- 31%, which could be attributed to the uncertain criteria and multiple diagnostic methods, although the typical case is rare.^[9,10]

In literature, there have been limited reports regarding some abdominal organ as content in epigastric hernia. We hereby report a case of 56 year old woman, who incidentally presented with Riedel's lobe of liver as content in epigastric hernia.

CASE REPORT

A 56 year old female patient presented to ER (Emergency Room) in our hospital with history of swelling in epigastric region since last 1 month and pain at same site since 24 hours. There was no history of any other symptoms pertaining to abdomen including dyspepsia, vomiting, distension and constipation. On general physical examination, her PR (Pulse Rate) was 92 beats per minute, BP (Blood Pressure) was 124/86 millimetre mercury and RR (Respiratory Rate) was 21 per minute.

On further examination of abdomen, there was a visible lump of size 5X4 centimetre present in midline at epigastric region which was placed more in transverse direction. There were no scar marks, dilated veins or any other lump present in abdomen. Cough impulse was absent. On palpation, the lump was smooth, non-tender with well-defined margins. On USG (Ultrasonography) of abdomen, the findings were suggestive of an epigastric hernia with content as omentum with no gut loop present. All visceral organs were grossly normal and there was no free fluid present in abdominal cavity. Small and

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large intestine were also normal with no dilated gut loops present.



Patient was planned for emergency surgery. On exploration through an upper midline incision, the hernia sac was identified just beneath skin and subcutaneous tissue. The defect was increased transversally about 2 centimetres on each side. A firm structure was palpable inside the sac. On further exploration after incising the sac, we were surprised to see a firm dark brown structure having smooth surface along with about 5 millilitre of clear fluid present in the sac. This structure was having colour and consistency similar to liver. On further dissection through the abdominal cavity it was found that this structure was arising from the inferior surface of liver near the attachment of falciform ligament just right to gall bladder. An intraoperative diagnosis of Riedel's lobe of liver as a content in epigastric hernia was made. A detailed examination

of adjacent structures in abdominal cavity was done including rest of liver which was grossly normal. As the base of this part of liver was broad, it was gently replaced in the cavity and a prolene mesh was placed over the rectus muscle, after closing the defect in linea Alba. Wound was closed in layers. Patient was discharged on 9th postoperative day after uneventful recovery. The patient has fully recovered and is still in follow up, 6 months after surgery.



DISCUSSION

Abdominal wall hernias are a very common surgical condition affecting all ages and both sexes. It is an abnormal protrusion of a peritoneal lined sac through the muscular covering of the abdomen.^[1] Epigastric hernia is a rather common condition and represents 1.6-3.6% of all abdominal hernias and 0.5-5% of all abdominal hernias operated.⁴ Approximately, 3-5% of the population suffers from an epigastric hernia. From 1985 to 2008, the incidence of epigastric hernia increased significantly.^[12] It occurs usually through a defect in the decussation of the fibres of the linea alba, anywhere between the xyphoid process and umbilicus. To start with, it is usually a sacless hernia but later the protrusion enlarges and drags a pouch of peritoneum. Extraperitoneal fat protrudes through the defect as fatty hernia of the linea Alba, presenting like a swelling in the upper midline. Contents of the true epigastric hernia are usually omentum and sometimes gut. The ideal treatment of an epigastric hernia is exploration through a midline or transverse incision, opening up of sac, identification and examination of contents followed by herniotomy. The defect is closed by a mesh placed either beneath the peritoneum, in the preperitoneal space or by onlay method.

The aetiology of the Riedel's lobe has been proposed to be either congenital or acquired. The congenital

origin of accessory liver lobe is associated with an excessive dysembryoplastic anomaly in the development of a hepatic bud which can lead to the formation of accessory lobes, in intrahepatic position.^[7,10] Additionally, it is proposed that it could be in the framework of hepatic modifications caused by age or by skeletal anomalies such as kyphoscoliosis with wide thorax.^[10,13] It may form secondary to intraperitoneal or intrapelvic inflammation or after some surgical intervention.^[14] History of omphalocele or gastroschisis, which is also proposed to be related with supernumerary lobes were denied by our patient.^[15,16] This rare morphological feature of hepatic lobulation was described by Corbin in 1830 and it was defined by Riedel in 1888 as a "round tumour on the anterior side of liver, near the gallbladder, to the right". In the literature, it is also referred to as floating lobe, "tongue like", or constriction lobe.^[17] Now a days, this downward elongation of the liver is frequently observed (mostly in women) by modern imaging techniques, but the typical case of Riedel's lobe is rare.^[10] The above reported case was a typical feature of a Riedel's lobe of liver which was palpable in the sac of epigastric hernia on examination.

There are several types of accessory liver lobes classified by volume and weight, including a bulky accessory liver lobe (>31 grams), which is connected to the liver via a stalk of tissue or wide base in the in the subphrenic or perihepatic zone. A small accessory lobe (11-30 grams, connected to the liver via a wide base on the surface of the liver), an ectopic liver lobe (a completely separate lobe with no connection to normal liver tissue), often diagnosed as a mass in the thorax or pelvic cavity or a pinpoint atopic lobe (<10 gram), most often located at the margins of the liver or gall bladder wall.^[18-21] Our patient's variant was a small accessory liver lobe, connected to the liver via a wide base on the surface of the liver.

Epidemiologically, Riedel's lobe prevalence is higher in women (4.5-19.4%), as in our case, than in men (2.1-6.1%).^[22,23] A radiological series with different definition criteria noted higher incidence (31%) and close proportion between two sexes.^[24] We had this finding in middle age woman, but this accessory hepatic lobe has been reported in infants as young as 2 months of age as well as in patients presenting late in 79 years old, predominantly in adults or elderly.^[25]

Generally, Riedel's lobe can present with minor symptoms such as an abdominal discomfort due to extrinsic compression or torsion episodes. For its diagnosis, all available techniques can be used including Ultrasonography, Contrast Enhanced Computed Tomography, Magnetic Resonance Imaging and sometimes radionuclide imaging.^[26] But in our case, it was not diagnosed by USG and no other investigation was done as patient presented to

us in emergency and was planned for exploration after clinical examination and USG findings.

Typical Riedel's lobe usually have good prognosis considering the early diagnosis, the lack of complications and the proper treatment such as the resection of the hypertrophic parenchyma in case of torsion with noisy clinical presentation, metastatic lesion or Hydatid cysts of the Riedel's lobe.^[27] It may also present with minor symptoms such as acute or recurrent abdominal discomfort, nausea, constipation or bloating caused by extrinsic compression. In this case, it presented for the first time as content in epigastric hernia with no other complication, so it was safely returned back in to the peritoneal cavity.

CONCLUSION

Abdominal wall hernias are a common clinical presentation with epigastric hernia being second most common type of defect in linea Alba. It is usually a sacless hernia to start with, where a small amount of extraperitoneal fat comes out through the defect. But, sometimes omentum and part of gut comes out through the defect. Riedel's lobe is a normal variant of liver which is rare and mostly asymptomatic where the diagnosis is usually established incidentally upon radiological examination, surgery or autopsy. So far, Riedel's lobe as content in an epigastric hernia has never been reported in literature.

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