Congenital Riedel's Lobe of the Liver: A Case Report

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Introduction

Riedel lobe of the liver is a rare anatomical variation described as a downward tongue-like projection of the anterior edge of the right liver lobe to the right of the gallbladder. It is often detected incidentally on imaging or the presence of hepatomegaly on physical exam.

The incidence of Riedel's lobe varies depending on the diagnostic criteria and methods but has been reported to be within 3.3% and 14.5%.

Case Description

A 43-year-old female was referred for evaluation of hepatomegaly, which was revealed on MRI and CT scan dating back to 2016.

Medical history notable for Irritable Bowel Syndrome (IBS), uterine fibroids, and a history of a tumor removal from her right breast.

Patient denies any history of alcohol, illicit drugs, hepatotoxic medications, or pre-existing liver disease.

Physical exam was unremarkable and abdominal exam did not reveal any mass or abnormalities.

Lab Results

Routine blood examination was within normal limits as well as liver function tests with preserved hepatic synthetic function and normal iron studies.

Hepatitis panel (A, B, C), anti-smooth muscle antibody, and LKM-1 IgG antibody was negative.

ANA, alpha-1 antitrypsin, and tissue transglutaminase were all negative as well.

The only lab abnormality was an elevated IgG mitochondrial M2 antibody 54.5 (normal less than 20 units).

References

Sommariva A, Pasquali S, Stramare R, Montesco M, Tropea S, Rossi C. Laparoscopic Diagnosis and Treatment of a Twisted Accessory Liver Lobe. CRSLS. 2014 11/01.
Jambhekar K, Pandey T, Kaushik C, Shah HR. Intermittent torsion of accessory hepatic lobe: An unusual cause of recurrent right upper quadrant pain. Indian J Radiol Imaging. 2010;20(2):135-37.
Metcalf JV, Mitchison HC, Palmer JM, Jones DE, Bassendine MF, James OF. Natural history of early primary biliary cirrhosis. Lancet. 1996 Nov 23;348(9039):1399-402.

Results

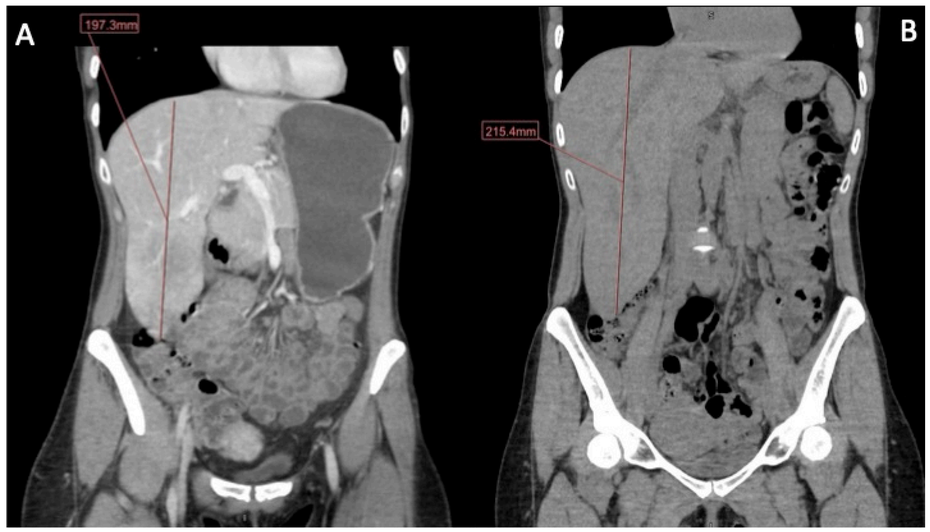

Image 1: CT of the abdomen/pelvis from 2016. Liver measuring up to 197.3mm in the sagittal plane.
Image 2: CT of the abdomen/pelvis from 2020. Liver measuring up to 215.4mm in the sagittal plane.

CT abdomen was significant for an enlarged liver with the right lobe extending into the pelvis and 'not completely included in the study'.

MRI abdomen revealed a markedly enlarged liver measuring up to 23.8cm in its craniocaudal dimension with extension into the pelvis with the pancreas deviated to the left, likely secondary to the prominent hepatomegaly.

Venous duplex significant for normal directional flow in the portal and hepatic veins with no evidence of portal hypertension.

Liver biopsy revealed signs of sinusoidal dilatation nonspecific for veno-occlusive outflow obstruction with no signs of inflammation, steatosis, or fibrosis.

Diagnosis & Follow up

The patient was diagnosed with Riedel's lobe of the liver.

She was discharged from the hospital without treatment with a recommendation to repeat an MRI in 1 year, as torsion is a reported complication of Riedel's lobe over time.

Patient will be recommended to repeat LFTs and anti-mitochondrial antibody to determine progression/significance prior to follow up in 6 months.

Discussion

Etiology of Riedel's Lobe is suggested to be due to either congenital or acquired.

- Congenital: Disembioplastic anomaly in the development of the hepatic bud, leading to the formation of accessory hepatic lobes in the infrahepatic space. Accessory lobes can be connected directed to the original liver via mesentery or a pedicle. Patients with accessory hepatic lobes have a history of omphalocele or gastroschisis, suggesting that a malformation involving the foregut and abdominal wall may be related.
- Acquired: Patient's with acquired risk factors such as intrapelvic inflammatory conditions. Riedel first postulated that inflammation in nearby structures, such as the appendix or gallbladder, results in elongation of the liver.

Most patients with Riedel's Lobe are asymptomatic. However, it may lead to abdominal discomfort, nausea, bloating, and constipation in the event of torsion or external compression of the lobe.
The following are complications reported in literature:

- Mechanical complications (eg, torsion of the accessory lobe)
- Gastric outlet obstruction
- Bleeding & Rupture

Interestingly, cases of malignancy involving Riedel's lobe have been reported including primary hepatocellular carcinoma and metastatic nodules.

Interestingly, our patient was found to have elevated IgG mitochondrial M2 antibody (AMA-M2). AMA-M2 is usually associated with primary biliary cirrhosis (PBC) but can also be found in patients with autoimmune hepatitis. Anti-smooth muscle antibody (ASMA) was negative in our patient. AMA is highly sensitive and specific for PBC. Positive results in the setting of normal liver function tests (LFTs) indicate an increased risk of PBC development in the future.

Conclusion

Riedel's lobe of the liver is a rare anatomical variant that is often incidentally found on imaging or the presence of hepatomegaly on physical exam. Although patients are usually asymptomatic, its presentation can vary, ranging from nonspecific symptoms to more severe symptoms such as torsion, obstruction, rupture, and bleeding. The range of symptoms associated with this rare anatomic variation highlights its importance in diagnosis and surveillance in this patient population.

References

Zamfir R, Braşoveanu V, Boroş M, Herlea V, Popescu I. Hepatocellular carcinoma in Riedel's lobe. Chirurgia (Bucur). 2008 Jan-Feb;103(1):121-3.
Glenisson M, Salloum C, Lim C, Lacaze L, Malek A, Enriquez A, et al. Accessory liver lobes: anatomical description and clinical implications. J Visc Surg. 2014 Dec;151(6):451-5.
Riedel I. Uber den zungenformigen Forsarz des rechten Leberlappens und seine pathognostische Bedeutung fur die Erkrankung der Gallenblase nebst Bemerkungen uber Gallenstein Operationen. Berl Klin Wochenschr. 1888;29:577-81.
Gillard JH, Patel MC, Abrahams PH, Dixon AK. Riedel's lobe of the liver: fact or fiction? Clin Anat. 1998;11(1):47-9.