Riedel’s Lobe of the Liver and Its Clinical Implication

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Riedel’s lobe of the liver, first described by Riedel in 1888 (1), is a simple anatomical variation, a downward tongue-like projection of the right lobe of the liver (2). It has been described as an accessory lobe, but it is not a true hepatic lobe. Therefore, there is little or no mention of this lobe in some of the major textbooks of anatomy. The clinical significance of Riedel’s lobe has been identified as its inclusion in the differential diagnosis of right-sided abdominal palpable masses (3) as Yano et al described in this issue of Internal Medicine (4).

There have been several arguments on its incidence, sexual difference in prevalence, etiology and clinical significance. The incidence of Riedel’s lobe in the general population varies with a considerably wide range from 3.3% to 31% (3, 5, 6). This variation can be attributed to the nature of uncertain criteria and the difference in equipment used for the diagnosis. Concerning the sexual difference in the prevalence, Riedel’s lobe was observed to be more common in females (4.5%~19.4%) than males (2.1%~6.1%) (3, 5, 6).

However, in a recent report using CT, a significant difference between sexes in the prevalence was not observed (6). The diagnostic criteria of Riedel’s lobe in this paper is, however, somewhat different from the previous reports. The original definition of Riedel’s lobe is “a downward tongue-like projection of the right lobe of the liver to the level of, or below, the navel.” On the other hand, Gillard et al (6) defined Riedel’s lobe as being present wherever the liver extended caudal to the most inferior part of the costal margin on the cross-sectional CT image. As a result, they reported Riedel’s lobe is much more commonly found than previously reported. In addition to that, there was no significant difference in the prevalence between sexes.

There has been another argument as to whether Riedel’s lobe is congenital (2, 3, 7, 8) or acquired (1, 2, 9, 10) in origin. Riedel himself thought that projection of the right lobe might be caused by traction or edema from gallbladder inflammation or other bowel abnormalities.

At present, this condition is regarded as an extreme case of a downward elongated liver secondary to unknown origin, maybe intraperitoneal or intrapelvic inflammation or secondary to surgical intervention as reported in this issue (4). In fact, downward elongation of the liver is frequently observed by CT or US nowadays although the typical case of Riedel’s lobe is rare.

As far as clinical implications, Riedel’s lobe or extreme downward elongation of the right lobe is of clinical importance since it could be one of causes of palpable abdominal mass. However, it is very easy to diagnose as a downward elongation of the liver or a part of the normal liver by using US, CT, MRI, or radionuclide imaging. In that sense, it is questionable whether the term “Riedel’s lobe” per se is actually important or not as Lane pointed out (11). He described that Riedel’s lobe is a simple variant of liver anatomy and the term “Riedel’s lobe” should not be used (11).

Another clinical significance of Riedel’s lobe includes the importance of having knowledge or suspicion of its possibility. Liver tumors including metastasis or hepatocellular carcinoma may sometimes arise only in the lowest part of Riedel’s lobe (12). However, inclusion of the lowest part of the liver into the scan field is regarded as essential these days. Therefore, the term Riedel’s lobe is not as important as it was years ago.

Another important point is that there are some case reports on torsion of Riedel’s lobe, which were resected surgically (13). Riedel’s lobe is usually separated from the rest of the liver by a transverse narrowing of the hepatic parenchyma. However, Riedel’s lobe is occasionally attached to the liver by a wide fibrous sulcus. In these conditions it is regarded as a pedunculated lobe which can undergo torsion (14).

In conclusion, Riedel’s lobe seems to be a simple anatomical variation secondary to inflammation or attachment to other tissue rather than a congenital anomaly. The term “Riedel’s lobe” per se has clinically become less important due to the progress of several imaging technologies. Riedel’s lobe is no longer mistaken for an abdominal tumor by using imaging. However, the condition of “Riedel’s lobe” or the extreme case of a downward elongated right hepatic lobe still seems important since the recognition of its existence leads to the correct diagnosis of right abdominal palpable mass, or correct depiction of the tumors within the lowest part of the elongated normal liver.

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References


