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Liver Surgery Case IV

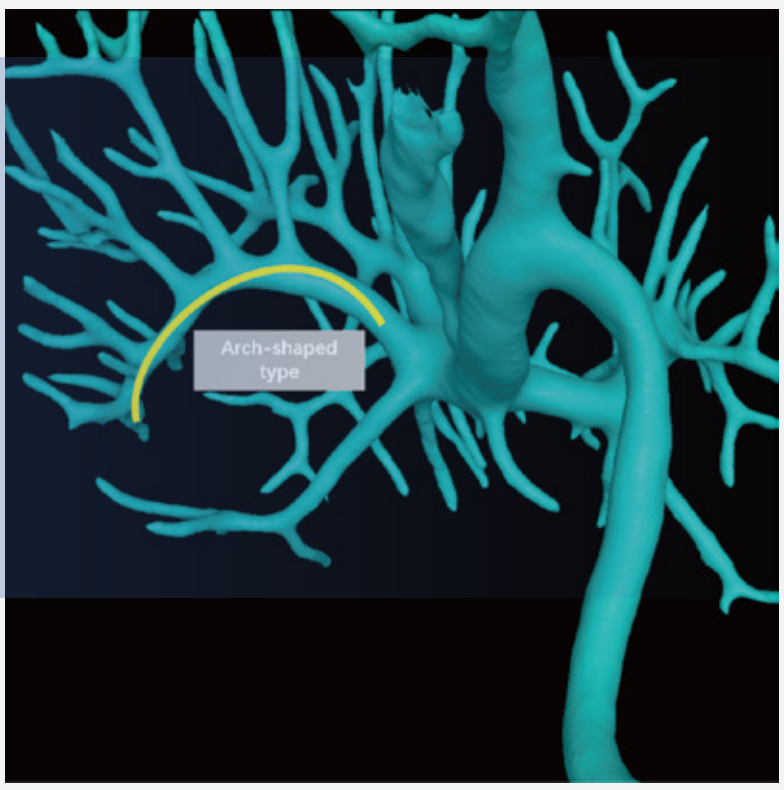
Variant Portal Vein (Trifurcation of the Main Portal Vein; Arcuate-Type Right Posterior Branch of the Portal Vein)

In this patient, a variation of the main portal vein is observed. Specifically, the main portal vein divides into three branches (trifurcation type), and the right posterior portal vein shows an arcuate configuration.

Surgical implications:

- In right anterior lobectomy and right posterior lobectomy, the right anterior and right posterior Glissonian pedicles must be dissected. In this case, dissection must be performed at the hepatic hilum to identify the right anterior and posterior pedicles, which differs from the usual anatomical approach.
- In right hemihepatectomy, division of the right portal vein is required. However, in this case there is no distinct right portal trunk; instead, there is a confluence of the right anterior and right posterior portal veins. Special caution is needed during hilar dissection.

This patient also demonstrates a portal venous variation of the right branch. Specifically, the right portal vein is of arcuate type, lacking discrete anterior and posterior branches.



Surgical implications:

- For hepatic segmentectomy, portal venous branches to segments V, VI, VII, and VIII cannot be clearly identified. As a result, anatomical segmental resection of these segments, as well as anatomical right posterior lobectomy, is technically challenging because the precise resection plane cannot be reliably established.

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