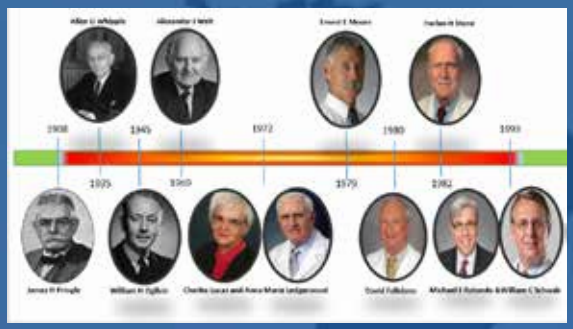
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Milestones and Key Figures in the Development of Damage Control Surgery

TRAUMA AND CRITICAL CARE SURGERY UPDATE: EXPANDING THE EVIDENCE — PART II

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Image of the Month

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Keywords: accessory right hepatic vein, inferior cava vein, anatomical variations, liver transplantation.

- The case report was approved by the Ethics Committee of Hospital General Universitario Dr. Balmis. Alicante (Spain).
- Written consent was obtained from patient.
- This manuscript includes three images.
- Manuscript word count: 319

Image of the Month

Understanding anatomical variations of accessory right hepatic veins (aRHVs) is crucial in hepatobiliary and liver transplantation (LT) surgeries. During these procedures, multiple small accessory veins between the liver and the inferior vena cava (IVC) may be encountered, which are often missed on CT scans and might not be true aRHVs. True aRHVs include the inferior right hepatic vein (IRHV), which drains segment VI directly into the IVC, and the middle right hepatic vein (MRHV), which drains segment VII (Figure 1). Their occurrence, shape, and number vary significantly, with reported rates ranging from 6% to 52.5%. The simultaneous presence of MRHV and IRHV is extremely rare. Computed tomography (CT) remains the primary method for preoperative detection, enabling accurate vascular mapping and reducing surgical risks.

A 67-year-old man with a MELD score of 12, who has alcohol-related cirrhosis and hepatocellular carcinoma, underwent LT. Preoperative computed tomography revealed an IRHV that drains segment VI directly into the inferior vena cava (Figure 2), as well as an MRHV draining segment VII independently (Figure 3). During hepatectomy, both aRHV were clearly identified and ligated individually. The postoperative course was uneventful, and the patient was discharged on postoperative day 6.

Clinically, aRHVs are particularly important,

especially in living donor LT, where aRHVs larger than 3 mm require venous reconstruction to prevent complications such as hemorrhage or graft ischemia. In liver surgery, understanding the spatial relationship between aRHVs and the main right hepatic vein is essential for surgical planning. Overall, variability in definitions and a lack of standardization lead to inconsistent reporting across studies. Recognizing these differences before surgery is therefore vital to improve surgical outcomes and reduce complications.

DIAGNOSIS: ACCESORY IHRV AND MHRV

Learning points

- Preoperative identification of aRHVs is crucial to avoid surgical complications.
- CT imaging is the primary method for precise hepatic vascular mapping.
- Anatomical variations greatly influence surgical planning and results.
- The absence of standardized definitions leads to variability in reported incidence.

References:

1. Tani K, Shindoh J, Akamatsu N, Arita J, Kaneko J, Sakamoto Y et al. Venous drainage map of the liver for complex hepatobiliary surgery and liver transplantation. HPB (Oxford). 2016 Dec;18(12):1031-1038. doi: 10.1016/j.hpb.2016.08.007. Epub 2016 Sep 21. PMID: 27665239; PMCID: PMC5144551.

2. Cawich SO, Naraynsingh V, Pearce NW, Deshpande RR, Rampersad R, Gardner MT et al. Surgical relevance of anatomic variations of the right hepatic vein. World J Transplant. 2021 Jun 18;11(6):231-243. doi: 10.5500/wjt.v11.i6.231. PMID: 34164298; PMCID: PMC8218342.

3. Anwar AS, Srikala J, Papalkar AS, Parveez MQ, Sharma A. Study of anatomical variations of hepatic vasculature using multidetector computed tomography angiography. Surg Radiol Anat. 2020 Dec;42(12):1449-1457. doi: 10.1007/s00276-020-02532-5. Epub 2020 Jul 20. PMID: 32691112.

Figure 1: Scheme of accessory hepatic veins. IRHV: inferior right hepatic vein; MRHV: middle right hepatic vein; RHV: right hepatic vein

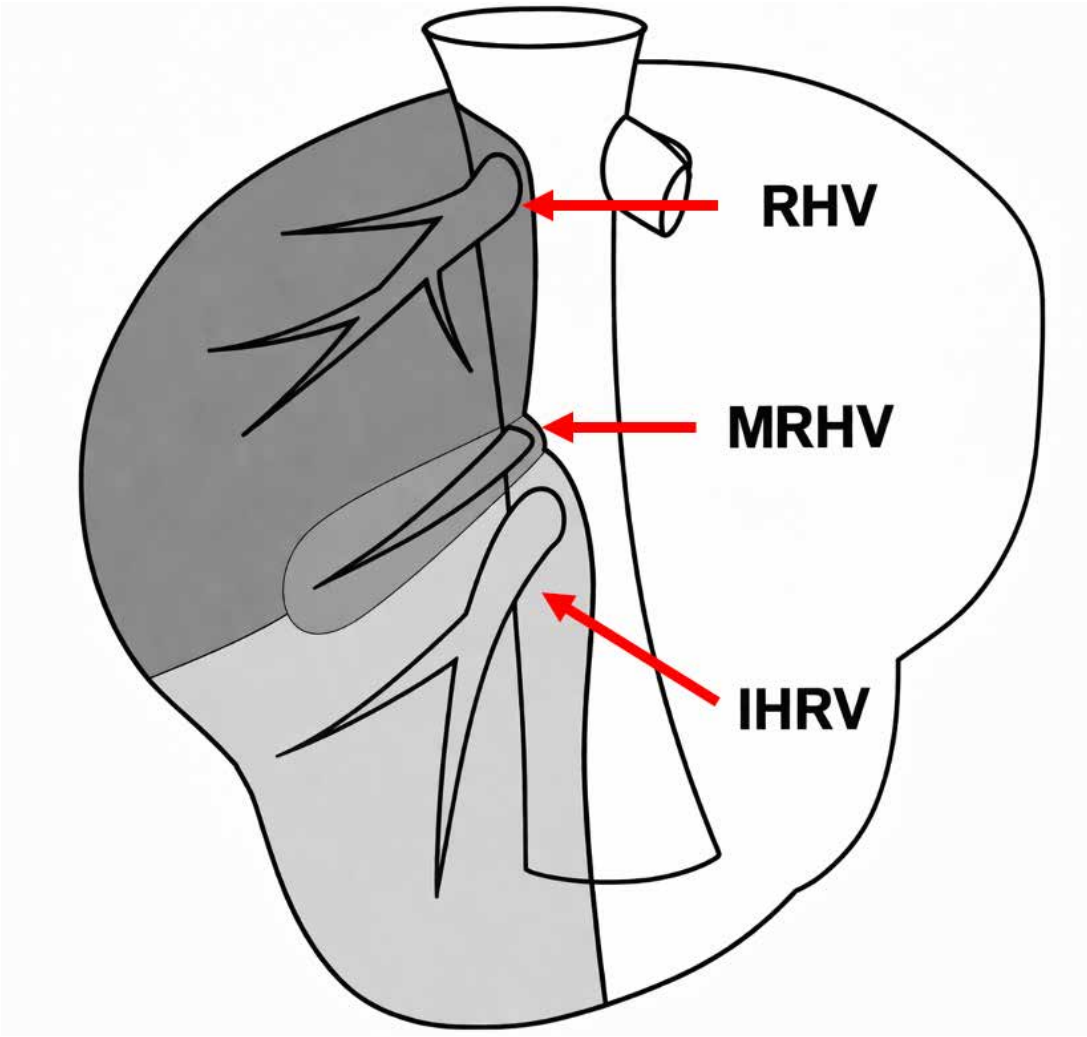


Figure 2: CT axial and sagittal: IRHV: inferior right hepatic vein; IVC: inferior vena cava; A: ascites.

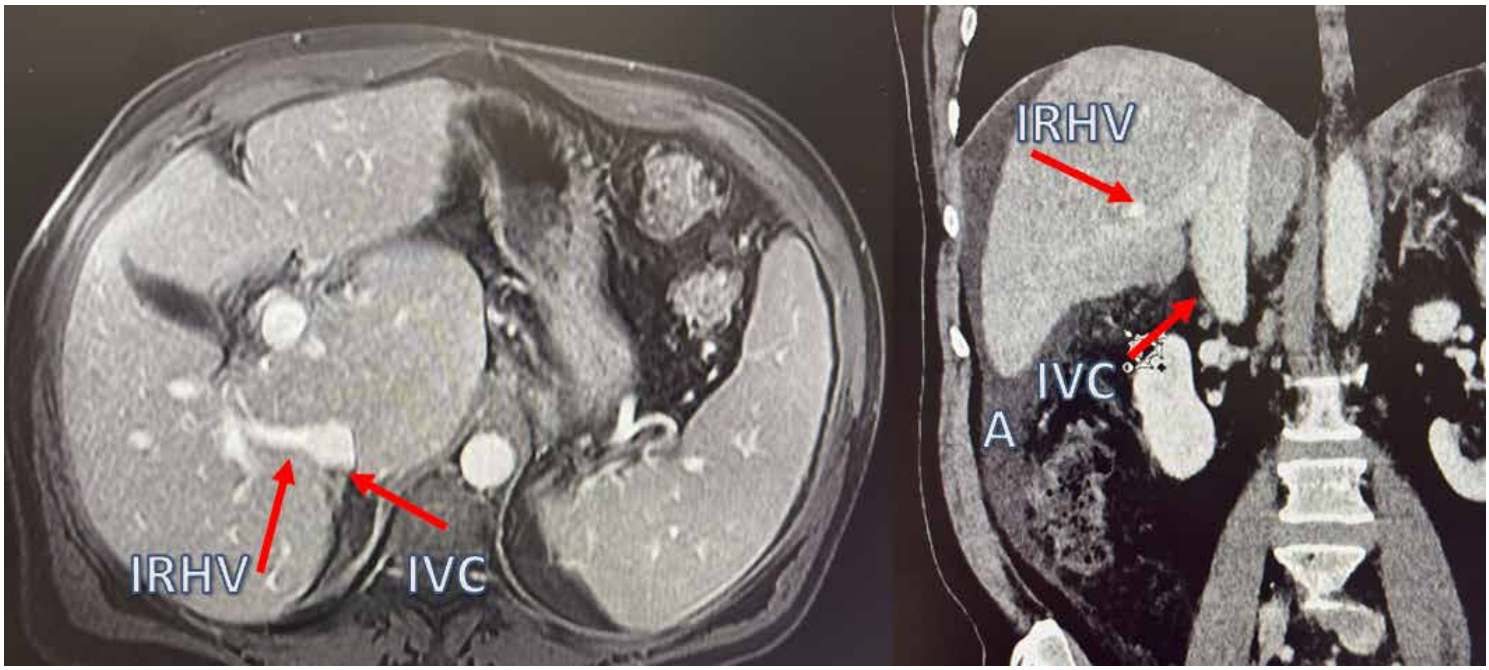


Figure 3: CT axial: MRHV: middle right hepatic vein; RHV: right hepatic vein IVC: inferior vena cava

