



ABST-0171

Hepatic Vascular Anatomy And Intrahepatic Bile Duct Variation: Donor's Characteristic Of Liver Transplantation In Indonesia

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Background : Identification of hepatic vascular anatomy and intrahepatic bile duct (IHD) variation is essential before performing living donor liver transplantation. This study aimed to describe and classify the anatomic variation of liver donors in Indonesia.

Methods : We identified 75 liver donors at Dr. Cipto Mangunkusumo Hospital between 2010 and 2022. All of them were examined using computed tomography angiography (CTA), but only 51 subjects had magnetic resonance (MR) and intraoperative cholangiogram (IOC) documentation due to missing data. We classified the hepatic artery according to Michel's classification, portal vein based on Nakamura's classification, and IHD using Huang's classification.

Results : The mean age was 31.7 ± 6.1 years, dominated by 58.7% females. The mean duration of surgery was 429.4 ± 109.7 minutes. Michel's artery classification consisted of type I (57, 76.0%), II (4, 5.3%), III (5, 6.7%), VI (3, 4.0%), and type IV, V, IX (2, 2.7%) each. Nakamura's portal vein classification consisted of type A (67, 89.3%), B (5, 6.7%), and C (3, 4.0%). The hepatic vein consisted of left & middle hepatic vein common trunk (45, 60.0%), independent drainage (13, 17.3%), and others (17, 22.7%). Meanwhile, IHD classification consisted of Huang A1 (29, 59.2%), Huang A2 (8, 16.3%), Huang A3 (6, 12.2%), Huang A4 (5, 10.2%), and Huang A5 (1, 2.1%).

Conclusions : Preoperative MRC and CTA are beneficial examinations for hepatic vascular and biliary tract mapping before performing liver resection to improve the operative duration and prevent postoperative complications.

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