

Study of the variation of hepatic artery anatomy and its importance for the establishment of liver transplants: a review of scientific production

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The knowledge of hepatic artery anatomy of the patient is of great importance in increasing the effectiveness and safety of surgical procedures, particularly liver transplants, which is the first choice for patients with liver disease in final stage. Please note that changes in the hepatic artery anatomy are common, with an incidence of 23-45% (Ishigami et al., 2004, American Journal of Roentgenology), which increases the risk of hepatic artery complications in transplanted patients. This is a review of literature built from articles provided by the databases Scielo and PubMed, accessed through the Portal of CAPES Journal. Articles searched (total of ten), had the frequency and types of anatomical variations of the hepatic artery. One of the main variations found was the presence of a dual blood supply, where a hepatic artery (common hepatic artery) was originated from the celiac trunk and other (accessory hepatic artery) was a branch of the superior mesenteric artery. The common hepatic artery was also reported as a branch of the superior mesenteric artery and the aorta. Most publications showed variations in the right hepatic artery and left hepatic artery, reporting them as branches of the superior mesenteric artery and the left gastric artery, respectively, and both as branches of the aorta. Also, in only one article (Freitas et al., 2007, Arquivos de Gastroenterologia), the right hepatic artery was reported as a branch of the superior mesenteric artery simultaneously with the left hepatic artery as a branch of the celiac trunk. Only in this article, the left hepatic artery was reported as a branch of the left gastric artery at the same time that the right hepatic artery was branch of the celiac trunk. Knowledge of the hepatic artery anatomy is essential to have the correct identification, preservation and management of many anatomical variations in hepatic artery supply, which determinate the success of liver transplants, resection of the major organs located in the supramesocolic region and the reduction of postoperative complications. The study of anatomical variations of the liver arteries wins even more importance with the new surgical techniques, bipartition of the liver, because the proper reconstruction of anatomical variants is essential to the vitality of the graft. It is noteworthy that the progress in investigations of images is an essential tool for knowledge and understanding of changes in the hepatic artery anatomy.