

The Importance of Route Anatomic Variants of the Common Hepatic Artery

Șerban Marinescu¹, Bogdan Tănase¹, Ciprian Cirimbei^{1,2}, Laurențiu Simion^{1,2}

¹"Prof. Dr. Al. Trestioreanu" Institute of Oncology, Bucharest, Romania

²"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Abstract

Introduction: Variants of vascularization in the celiac and upper mesenteric artery are described in the dedicated literature. The anatomy of this area is a subject of interest, considering the potential techniques and the risk of generating intraoperative incidents/accidents or complications.

Material and Method: We have conducted a unicentric retrospective study, in the Surgery Clinic No.1 of "Prof. Dr. Al. Trestioreanu" Institute of Oncology from Bucharest, on an 11-year interval of time, concerning the occurrence of this rare route-related anomaly of the common hepatic artery, incidence which is evaluated in the dedicated literature at about 0.1%. The study consisted of two components, namely the relevant medical records, on the one hand and focus-group discussions with the 19 surgeons of our department regarding their personal operating experiences, on the other hand. We have identified two cases where this route abnormality of the common hepatic artery, i.e. the retroportal route variant, has been encountered. These two cases are fully documented,

including

CT-scan and intraoperative images, and they are briefly presented hereinafter.

Results: Anatomical variants of the celiac trunk represent an extremely researched topic, considering the major implications in hepato-pancreato-biliary surgery and liver transplantation. Variants of route or origin of the hepatic artery can be the cause of numerous incidents and accidents in hepato-pancreato-biliary oncology surgery, but also in that of trauma. Non-recognition of anatomical, preoperative or intraoperative variants can result in important vascular lesions, especially of the portal vein, which can greatly complicate the resection time.

Conclusions: Route variants of the hepatic artery are particularly important in liver transplantation, hepato-pancreato-biliary or gastric oncology surgery, interventional radiology procedures, but also in

trauma surgery, especially in case of supramesocolic abdominal penetrating lesions. It would be ideal for these variants to be recognized before surgery, so that the most appropriate surgical technique can be adopted.

Key words: anatomical variants, common hepatic artery, retroportal route