ABSTRACT

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Thesis Title	**Anomalies of visceral arteries**

Introduction: Understanding of occurrence of visceral arteries anomalies is important for performing surgeries within abdomen. In case of lack of understanding of these anomalies, serious damage of blood vessels may occur, resulting in disorders of blood supply for liver, pancreas, as well as other organs located in abdomen. Early and accurate diagnostics is of high importance, and it may be performed via display methods, most frequently through computer tomography.

Objective: The aim of this thesis is to evaluate occurrence and types of anomalies of visceral arteries through scans resulting from computer tomography.

Methods: We have obtained the data from medical records of patients through hospital information system. These were the records of patients treated at the Surgery Clinic of the Faculty Hospital in Hradec Králové. Overall, there was a set of 430 patients included in the evaluation of the records taken between January 1, 2019 and December 31, 2019. It was essential, that the patients underwent the examination by computer tomography. Therefore, we ruled out 115 patients, who were not examined in this way or their scans were not evaluable. Based on the scans we studied, we came up with the characteristics of the individual types of anomalies.

Results: We were able to analyse computer tomography scans of 315 patients. 69.84 % of those scans did not prove to contain any deviation from standard anatomy of visceral arteries. The most represented anomaly, where the left hepatic artery emerges from the left gastric artery, occurred in case of 11.75 % patients. In 10.47 % patients, the right hepatic artery emerged from the superior mesenteric artery. In 1.27 % patients the left hepatic artery emerged from the left hepatic artery, and at the same time, the right hepatic artery emerged from the superior

mesenteric artery. In case of 3.18 % patients, the common hepatic artery emerged from the superior mesenteric artery. In case 0.63 % patients, the common hepatic artery emerged directly from the aorta. In case of 2.86 % patients, a set of new anomalies were confirmed, and for these we established new subtypes of evaluation. As it became apparent, the normal anatomic arrangement of the visceral arteries, as well as the individual anomalies, may have anatomic varieties, which represent the deviations with minimum clinical consequences. Specifically, it is a situation, when one, two or all three branches of truncus coeliacus may emerge from the aorta individually. We documented these varieties in the type 1, type 2 and type 5.

Conclusion: Anomalies of visceral arteries occur relatively frequently. Understanding of these anomalies is essential for successful performance of surgeries in abdomen. The evaluation and analysis of scans taken prior to the surgery reduces dangers of surgery and helps prevent undesirable bleeding and possible complications.

Key words: anomalies, visceral arteries, liver, pancreas, computer tomography