6. THE ANATOMICAL VARIABILITY OF THE LAST THREE PAIRS OF THE INTERCOSTAL ARTERIES

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Introduction. The intercostal arteries are of vital significance in the vascularisation of the intercostal musculature, fascia and the ribs. The last three pairs are involved in the blood supply of the antero-lateral abdominal wall and may be considered during the surgical intervention in this region. These may also play a vital role in the neurosurgical approaches to the intervertebral disks because of the possibility of a dramatical protrusion of the disk during the surgical intervention.

Aim of study. To determine the particularities of the number, origin, trajectory and branching of the last three pairs of the intercostal arteries

Methods and materials. We have studied 20 sections of the Magnetic Resonance Imaging in contrast regime of the arterial window in order to identify the anatomical variability patterns. Overall there have been 14 female patients and 6 male patients. The statistically processed data has been acquired.

Results. The mean age of the patients in the study poll was 58.55±13.24 years. In the available literature reports the posterior intercostal arteries have branching patterns with the adjacent arterial systems. We have identified 14 cases that had collateral branches (70%) and 6 cases that did not have such branches (30%). The anatomical trajectory of the arteries is usually straight but in an advanced age they may become sinuous in some portions or in their whole trajectory. We have identified completely straight arteries in 2 cases (10%), partially straight and partially sinuous in 6 cases (30%) and completely sinuous in 12 cases (60%). Their length was not measured because in imagistic studies this is a relative limitation and it is already proven in numerous studies in different countries with different ethnic composition that there are no statistical significant factors which may influence it.

Conclusion. The last three intercostal arteries are of comparable anatomical variability with other countries. The most prevalent group is the one which has collateral branches and sinuous trajectory (particularly because of an advanced age in our study poll).

Keywords. Intercostal arteries, arterial variability, arterial branches.