

TOPOGRAPHIC AND MORPHOMETRIC FEATURES OF THE AXILLARY ARTERY

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Background. Due to its large diameter and low risk of thrombosis, the axillary artery (AA) is lately used in carrying out the coronary angiography. Taking into consideration that the distal portion of the AA is the most frequently punctuated, among the complications that may occur at that level during its catheterization is the median nerve injury. The topographical relations of the median nerve towards the axillary artery and its morphometric parameters depending on gender were studied.

Materials and methods. It is a retrospective, descriptive study. The study group included 70 upper limbs taken from formalized adult human cadavers of both genders (37 males and 33 females), aged between 61-80 years, selected from the Department of anatomy and clinical anatomy of *Nicolae Testemitanu* SUMPh. By anatomical dissection, the syntopy of the AA in relation to the adjacent neurovascular elements was studied. For the measurements of the axillary artery dimensions, an anatomical probe with measuring units, a ruler, a protractor and a vernier caliper were used. The length of the axillary artery, its proximal and distal external diameters (ED), were determined.

Results. The mean length of the axillary artery was 9.2 ± 0.16 cm and the median was 9.0 cm; in males (M) the mean length was 9.7 ± 0.19 cm, in females (F) – 8.6 ± 0.21 cm. The proximal ED of AA was 6.13 ± 0.13 mm, the median – 6.0 mm; M – 6.54 ± 0.17 mm, F – 5.67 ± 0.15 mm. The distal ED of AA had a mean of 5.52 ± 0.11 mm, the median – 5.50 mm; M – 5.82 ± 0.16 mm, F – 5.17 ± 0.13 mm. At the level of union of the median nerve roots, the nerve was positioned anterolaterally to the axillary artery in 81.4% (51.4%/30% – male/female), medial to it – in 15.8% (4.4%/11.4% – male/female) and anteriorly to the brachial artery – in 2.8% of females.

Conclusions. The morphometric indices of the axillary artery in males had higher values than in females. The median nerve was most frequently positioned anterolaterally to the axillary artery, predominantly in males, and medial to it – predominantly in females. The relations of the median nerve towards axillary artery and knowledge of its dimensions are of great clinical significance for both surgeons and imaging specialists.

Keywords: axillary artery, morphometric parameters, median nerve, catheterization.