УДК [61+615.1] (043.2)
ББК 5+52.81
А 43
ISBN 978-985-21-1864-4

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ANATOMIC VARIATIONS OF THE AORTIC AND PULMONARY VALVES AND THEIR SURROUNDING STRUCTURES

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Objective. The aortopulmonary septum is a structure that forms during embryonic development and plays a crucial role in separating the aorta from the pulmonary trunk. It develops from the truncal ridges, which spiral and fuse to divide the outflow tract of the heart into two distinct channels. The aortopulmonary septum plays a crucial role in forming of aorta and pulmonary trunk, semilunar valves, outflow tracts of the heart and impacts the membranous part of the interventricular septum. Any abnormalities in the formation of the aortopulmonary septum can lead to congenital heart defects, such as persistent truncus arteriosus, interventricular defects and valves abnormality. Understanding of the development and anatomy of the septal derivates is essential for diagnosing and treatment.

Aim: to identify topography aspects of the aorta and pulmonary trunk, the relationship between their cusps and their effect on the membranous part of interventricular septum. To determine if sex and age have any influence on this part of the heart.

Materials and methods. The study was conducted on 30 human adult hearts 70,00 (63,00; 76,00) years old available at the Normal Anatomy Department, fixed in formalin. Morphological and morphometrical methods were used. The vessels were studied first, where their thickness was measured, the thickness and length of the membrane separating them, and the angle between them 2cm over the fibrous ring of each valve. The second step of the study focused on the membranous part of interventricular septum, where its length was measured, width, and thickness, all while noting its shape. In the last step, the relationships between the cusps of the aortic and pulmonary valves were noted, fixing the R-L commissure of pulmonary valve and noting the position of the aortic cusps, and then the position of the membranous part vis-à-vis them.

Results and their discussion. The results of the research were as follows: thickness of aortic wall 1.80(1.60-2.00) mm, thickness of pulmonary trunk wall 0.90(0.70-1.20) mm, length of wall between aorta and pulmonary trunk 34.00(28.00-37.00) mm, thickness of membrane between aorta and pulmonary trunk 2.40(1.70-3.30) mm, angle between aorta and pulmonary trunk 32.00(26.50-37.00) degrees. The dimensions and shape of the membranous part of the interventricular septum were determined: length of membranous part 17.00(14.00-21.00) mm, width of membranous part 14.00(13.00-17.00) mm, thickness of membranous part 1.35(0.75-1.75) mm, shape of membranous part: triangle 31.03%, circle 31.03%, rectangle 24.14%, other shapes (trapezoid, pentagon, parallelogram) 13.79%.

|The commissure between the |right and left cusps of the pulmonary valve was fixed and it corresponds 50.00% of times to the commissure between right and left cusps of aorta, 43.33% of times to left 1/3 of the left cusp of aorta, and 6.67% of times to right 1/3 of the right cusp of aorta

Conclusion. Thus, the morphometric parameters of the aorta and pulmonary trunk were determined, and their topography variants were established. The sizes and shape of the membranous part of the interventricular septum were determined. No gender differences were found in the studied characteristics.