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Viraspillai J., Kirunja J. VARIATIONS OF CORONARY ORIFICE POSITIONS

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Actuality. Coronary arteries are the one source of supplying blood to the human heart. The right and left coronary arteries originate from the corresponding sinuses of the aorta. The orifices are usually originated at the level of the supravalvular ridge, may be slightly above or slightly below but within a variation of 2.5 mm. However, the available literature contains less data on the position of coronary artery openings relative to the commissures of the semilunar leaflets. Coronary arteries related heart diseases hold significant place among the causes of mortality worldwide. Knowledge of the detailed topography of the coronary artery orifices can be useful for physicians when performing complex medical interventions to treat coronary artery diseases, such as coronary artery bypass grafting, coronary cannulation, and other transcatheter interventions.

Aim: the aim of the study was to establish the precise topography of coronary artery orifices within the aortic sinus, specifically positioned between the commissures of the semilunar cusps.

Materials and methods. In this study, 60 formalin-preserved adult human hearts were examined. Morphological method was used to determine the location of coronary artery orifices. Each aortic sinus was divided into three sections between the commissures of semilunar leaflets of aortic valve, and the position of the coronary orifices was recorded in relation to these isolated thirds.

Results and their discussion. In all specimens, the coronary arteries arose from the appropriate aortic sinuses. Did not find any epicardial course in between aorta and pulmonary trunk or any intermediate arteries or any accessory orifices. The left coronary artery arose within the left coronary aortic sinus (of Valsalva). The study determined that the left coronary artery originated from the left third in 23.33%, from middle third in 55.00% and from right third in 6.67%. The right coronary artery arose from the left third of the right coronary sinus in 3.33%, from middle third in 28.33% and from right third in 53.33%. The reliability of differences has been determined χ^2 =35.8978, p ≤ 0.05. So the left coronary artery orifice most commonly originated from the middle third of aortic sinus (55.00%) and least proportionally from right third (6.67%) while the right coronary artery orifice predominantly arose from the right third (53.33%) and less frequently from left third (3.33%).

Conclusion. Variants of the topography of the coronary artery orifices in the aortic sinus have been established. It has been established that the orifice of the left coronary artery is most often located in the center of the aortic sinus, and the orifice of the right coronary artery is often displaced posteriorly.