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**FREQUENCY AND TOPOGRAPHY OF CHOLESTEROL PLAQUES IN THE WALL
OF THE AORTIC SINUSES**

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Relevance. The aortic sinuses are small pouches in the aorta just above the aortic valve, play a critical role in heart function by ensuring proper valve closure and serving as the starting points for the coronary arteries that nourish the heart. Usually, these sinuses can be affected by atherosclerosis, a condition where cholesterol plaque builds up within their walls. This plaque, a mixture of fats, cholesterol, and other substances, can harden and narrow the sinuses and coronary arteries, potentially restricting blood flow and increasing the risk of serious cardiovascular problems. Knowing the precise location of this plaque within the aortic sinuses is essential because it guides treatment decisions, helps predict future health risks, allows for assessment of aortic valve function, and aids in determining if the plaque is the cause of any symptoms a patient may be experiencing.

Aim: to establish variants of the incidence and position of atherosclerotic changes in the aortic bulb of adult humans.

Material and methods. This study used 38 autopsy human hearts (18 female, 18 male, and 2 unspecified), aged 68.50 [52.00; 78.50] years. Morphological and morphometrical methods were used for identifying the location of the cholesterol plaques and to measure sizes like height, width of the aortic sinuses.

Results and their discussion. In the root of aorta, the right coronary aortic sinus, left coronary aortic sinus and non-coronary aortic sinus are distinguished. The study found that there is non-uniform distribution of cholesterol plaques within the aortic sinuses. In adult human aortic bulbs, cholesterol plaques were present in 60.53% of cases, while 39.47% showed no signs of plaque formation. Cholesterol plaques weren't evenly spread. In 34.21% of cases, all three aortic sinuses had plaques. In 15.79% of cases, plaques were in two sinuses, and in 10.53% of cases, only one sinus had plaques.

Looking at each sinus individually, the left coronary sinus had plaques in 55.26% of cases, the right coronary sinus in 47.37%, and the non-coronary sinus in 42.11%. Surprisingly, the left coronary sinus had the most plaques, even though some articles shows the right coronary sinus to have more due to the stress from blood flow.

Conclusion. It has been established that 60.53% of cases exhibited cholesterol plaques within the aortic sinuses, while 39.47% were devoid of such lesions. Plaque prevalence was notably highest in the left coronary sinus. These findings, primarily observed in middle-aged and senior adults, warrant further investigation through larger prospective studies incorporating coronary angiography data. Such studies are necessary to confirm these observations and to elucidate the underlying mechanisms driving plaque formation in the aortic sinuses.