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OC-109 - (24013) - MORPHOMETRIC ANALYSIS OF SEPTAL PAPILLARY MUSCLES AND THEIR SEPTAL INSERTION IN ADULT HEARTS

M. Zajączkowski (Poland)[1]; A. Kaczyńska (Poland)[1]; A. Kosiński (Poland)[1]

1 - Department of Clinical Anatomy, Medical University of Gdańsk, Poland

Miłosz Zajączkowski
Gdańsk

Agata Kaczyńska
Gdańsk

Adam Kosiński
Gdańsk

To this day, research into the morphology of the heart remains crucial in light of the ongoing advancements in cardiological procedures, particularly in interventional cardiology and cardiac surgery. A thorough understanding of the detailed structure of the heart is essential for accurately identifying pathological variations that may arise within or outside its anatomical boundaries. Although many studies utilize modern imaging techniques, it appears that only comprehensive autopsy-based analyses allow for the level of detail necessary for such investigations. These analyses can help determine whether specific structural features of the heart represent anatomical norms (or variations thereof) or constitute pathology.

The objective of this study was to evaluate the relative length of all septal papillary muscles, including the papillary muscle of the arterial cone (*conus arteriosus*; MCA) as well as the other remaining septal papillary muscles (MPS), and to assess the vertical level at which these muscles originate — an aspect that may hold clinical significance.

The height of the right ventricle was measured along its posterior contour, extending from the right fibrous ring to the bottom of the ventricular apex. This height was divided into ten arbitrary levels (1–10 from top to bottom), which served as reference points for locating the examined muscle structures. The relative length of each muscle was calculated as a proportion of the total right ventricular height. The muscles were categorized into two groups: a constant group—always including the MCA—and a variable group comprising the remaining MPS.

The MCA was identified in all hearts analysed. In most specimens, it appeared as a minimally developed structure forming a slight protrusion. Only in three cases did its relative length reach the maximum observed range of 16–20% of the right ventricular height. The MPS, when present, were generally rudimentary. In 28 hearts, no MPS were observed at all. When developed, these muscles exhibited a convex or conical shape and were located in the medial or posterior region of the septum.

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Palavras-chave : heart morphology, right ventricle morphology, septal papillary muscles