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ANATOMIC REORGANIZATION OF THE PAPILLARY MUSCLES AND WALLS OF THE HEART VENTRICLES AT THE TETRALOGY OF FALLOT

The study was conducted within the Scholarship Program of the Cabinet of Ministers of Ukraine for young scientists approved by Resolution 7 of the Ukrainian State Awards Committee Presidium (2012 Oct 03).

ABSTRACT. Background. Despite the high prevalence of heart defects due attention is not given for investigation of morphometric parameters of papillary muscles and respective regions of ventricle wall at tetralogy of Fallot. **Objective.** To study the morphometric parameters of papillary muscles of atrioventricular valves, and the thickness of the ventricle walls at the base of papillary muscles in tetralogy of Fallot comparing with normal hearts. **Methods.** 27 samples of abnormal hearts with tetralogy of Fallot from 20 weeks of prenatal period up to 1 year after birth were investigated with methods of anatomical dissection and morphometry, in particular height, width and thickness of each papillary muscle were measured. **Results.** Tetralogy of Fallot was accompanied by increase in the thickness of right ventricle wall at the base of papillary muscles ($p < 0,05$), thickness of left ventricle wall did not differ from normally formed hearts ($p > 0,05$). It was established that the height of papillary muscles did not depend on thickening of ventricles walls of heart. The thickening of the right ventricle wall of the heart in tetralogy of Fallot was accompanied by increase in width and thickness of papillary muscles of the right atrio-ventricular valve. **Conclusion.** Major changes in tetralogy of Fallot were exhibited in the thickening of papillary muscles and adjacent region of ventricle wall but were not in relation with the height of papillary muscles.

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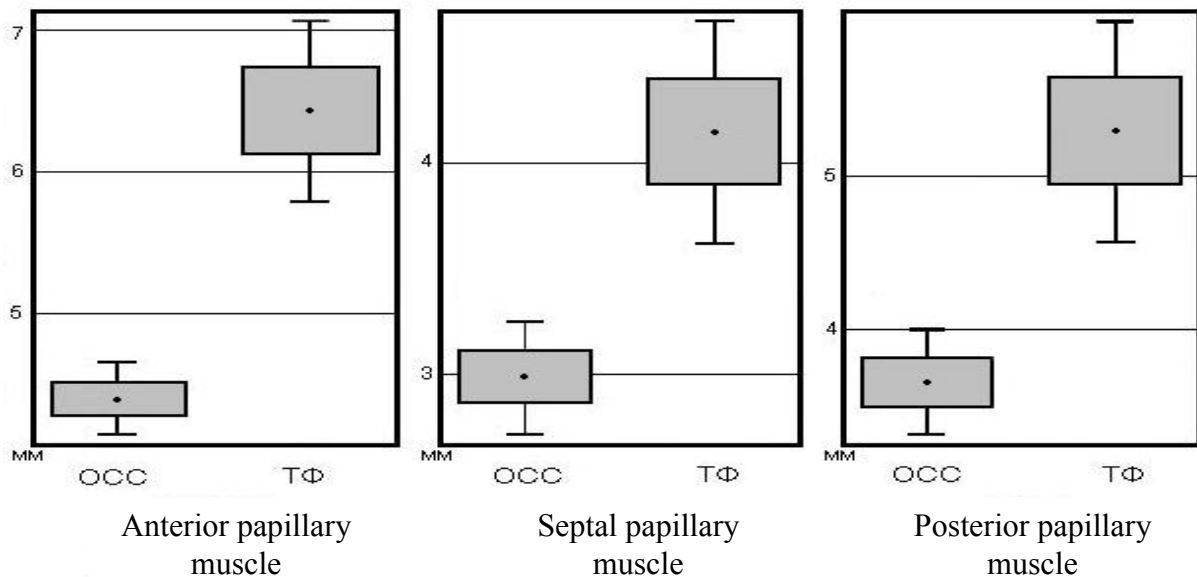


Fig. 1. Distribution of the papillary muscle width of the right atrioventricular valve in the normally formed hearts and in the tetralogy of Fallot.

OCC – normally formed hearts; TΦ – tetralogy of Fallot.

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