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**THE FEATURES OF SYSTOLIC, DIASTOLIC FUNCTIONS
AND GEOMETRY OF THE LEFT VENTRICLE OF THE HUMAN
HEART IN THE PRESENCE OF ABNORMALLY LOCATED CHORDS**

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Intoduction. Abnormally located chords (ALC) are small anomalies of the heart and considered as a possible cause of violations of intracardiac hemodynamics, left ventricular (LV) geometry, diastolic and systolic functions. However, the high population frequency of ALC determines the relevance of studying this problem in terms of identifying risk factors of pre-pathological and pathological conditions.

Aim of the study. A comprehensive study of the features systolic and diastolic function and LV geometry at females with different types of ALC.

Materials and methods. The study has covered 50 females with ALC and 50 females without ALC in age of 20-35 years. The participants had not concomitant cardiovascular disease and were considered as relatively healthy. Transthoracic echocardiography was performed in M- and B-modes with ultrasound system Medison-8000. Systolic function has been assessed by the following echocardiographic indices: end-diastolic volume (EDV), end-systolic volume (ESV), stroke volume (SV), minute volume (MV), ejection fraction (EF). Diastolic function assessed by Doppler-derived transmitral inflow velocities. Measurements included the transmitral early diastolic (E wave) and atrial (A wave) velocities to calculate E/A ratio and E-wave deceleration time (DT). The geometry of LV assessed by LV wall thickness, LV mass, diameter of outflow tract and LV end-diastolic size. Statistical data processing were processed using «Statistica 8.0». The level of statistical significance accepted as $p < 0,05$.

Results. A significant increase of EDV at 9,3% and MV at 13,4% ($p < 0,05$) has been found in the group with ALC. At the same time there was a trend to an increase of ESV, SV and decrease of an EF. In the group of individuals with ALC we have also found a significant reduction of mean E at 11,9%, as well as E/A ratio at 14,3% ($p < 0,05$). At the same time there was an increase of DT at 10,2% ($p < 0,05$). We have also found an increase of LV wall thickness, LV mass, LV end-diastolic size, and decrease of diameter of outflow tract ($p < 0,05$).

Conclusion. ALC provide additional load on the LV, increasing the risk of LV violation including diastolic dysfunction. The presence of ALC may be the cause of the overload and the violation of the contractile function of the LV. Changing in the geometry of the LV can be one of the morphological manifestations of possible violations.