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MORPHOLOGICAL FEATURES OF HEART OF ATHLETES WITH SYMPTOMS OF CONNECTIVE TISSUE DYSPLASIA

The study was performed as a part of research works “Biomedical maintenance of physical rehabilitation, sporting and recreational trainings” (state registration number 0113U007653).

ABSTRACT. Background. The issue of medical monitoring of people with mitral valve prolapse during sports and recreational physical culture is widely discussed in contemporary literature. Mitral valve prolapse occurs with a frequency of 0.5% to 38.0%; it may be a manifestation of diseases with different origin and prognosis. It evidences the requirement of deep analysis and differential diagnosis by specialists to prevent complications in such athletes. **Objective.** The purpose of the work is to improve medical support of training process in athletes with mitral valve, based on the clinical form of mitral valve prolapse and degree of systemic involvement of connective tissue. **Methods.** We have examined 246 athletes aged from 7 to 40 years (average age was $16,1 \pm 5,9$ years), 65.2% - women and 34.8% - men. By using anthropometry and somatoscopy signs of systemic involvement of the musculoskeletal system in dysplastic process were determined. In a state of physiological rest echocardiographic examination was performed by the standard method. As a result of echocardiographic examination athletes with mitral valve prolapse were selected – 58 people. The control group comprised 188 athletes without specified attributes. **Results.** The most frequent signs of the phenotypic manifestations of systemic involvement of connective tissue in the dysplastic process were dolichostenomelia, hypermobility of joints and flat feet. In the group of athletes with mitral valve prolapse signs of systemic involvement of connective tissue were detected statistically significantly more frequent. In the group with myxomatous degeneration of leaflets mitral valve prolapse was 0.12 ± 0.12 cm, while in the athletes without myxomatous degeneration mitral valve prolapse was – 0.04 ± 0.12 cm, ($p=0.03$). In individuals with mitral valve prolapse without myxomatous degeneration systemic involvement of connective tissue was maximum, indicating that mitral valve prolapse originates as a small heart defect, accompanying other classified and unclassified dysplastic syndromes, whereas in the group of athletes with mitral valve prolapse and myxomatous degeneration systemic involvement of connective tissue is lower, indicating the original nature of myxomatous mitral valve prolapse. **Conclusion.** 1. Different clinical forms of mitral valve prolapse require differential approaches of sports doctors in permissions and planning of training loads in sportsmen. 2. Increase in the number of musculoskeletal signs of connective tissue involvement in the dysplastic process may indicate other accompanying classified and unclassified dysplastic syndromes. 3. Increased thickness of mitral valve evidences the original nature of myxomatous mitral valve prolapse with a prognostically unfavorable course.

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