

My scientific work

The problem of my scientific work (research) is heart arrhythmia. **From a review of relevant literature it can be noted** that there is a significant increase in the incidence of heart diseases in young people throughout the world. **Substantial studies also show** that the main causes of arrhythmias in the young are noncoronary heart diseases such as neurocirculatory dystonia, heart abnormalities and malformations, myocardial dystrophy, congenital defects of the conductive system of the heart.

Many researchers express concern that sometimes there is no evident cause resulting in arrhythmias in young people. Some studies have demonstrated that small heart abnormalities can be found in such patients by ultrasound examination. Such studies are of current importance. **There is clear evidence** that some connective tissue dysplasia syndromes, for example mitral valve prolapse, contribute to the rise of heart arrhythmias. Despite a wide range of all diagnostic tools arrhythmia still remains a critical condition that can lead to death as until now there is no clear understanding of the mechanisms of arrhythmias in patients with connective tissue dysplasia. The etiology sometimes remains unresolved (elusive).

The problem of heart arrhythmias associated with connective tissue dysplasia is **topical** since it is a problem of crucial medical and social importance. These arrhythmias affect young people and are widely spread in the population.

My study may contribute to a better insight into the identification and understanding of arrhythmia risk factors in young people with connective tissue dysplasia. **The aim of my research is to investigate (to study, to identify)** the impact of phenotype, somatotype, the small heart abnormality variant, vegetative nervous system condition and endothelium functional state on the development of heart arrhythmias and develop recommendations for practical doctors.

The main objectives of my research are:

1. To assess the incidence of arrhythmias in people with unclassified syndromes and phenotypes of connective tissue dysplasia
2. To evaluate (to analyze) the impact of endothelium functional state on the development of heart arrhythmias in young people with connective tissue dysplasia
3. To identify (define) the distinctive features of arrhythmias depending on phenotype, the small heart abnormality variant, vegetative nervous system condition and endothelium functional state

4. To develop recommendations for practical doctors (arrhythmias prognostication algorithm)

Methods:

There will be about 120 participants in the study – 80 young males with connective tissue dysplasia and 40 ones without the latter. The details of the patients studied will be as follows: no signs of heart inflammatory process, congenital and acquired heart disease, acute inflammation of upper respiratory tract area, inflammation and other internal diseases, blood electrolyte balance impairment. The methods used in the study will include phenotype evaluation, anthropometry, instrumental investigation, biochemical examination, as well as morphological macro- and microscopic examination during autopsy.

My thesis will consist of the theoretical part that will contain background information, methods and data, interpretation (discussion) of the obtained data, conclusion and recommendations. There will be a detailed description of all steps taken in the study. Statistical analysis of the data obtained will be carried out with the discussion of the main results, their explanation and interpretation and claims for the importance of the study. As a result of the study new examination protocols will be introduced into medical practice in the form of recommendations for doctors.