
МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

**SEARCH FOR MECHANISMS OF PATHOGENESIS
OF ATROPHY AND REGENERATION OF SKELETAL MUSCLES
IN PATIENTS IN LONG-TERM UNCONSCIOUSNESS**

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DOI: 10.31857/S004445292007270X

Thanks to the improvement of intensive care methods, more and more patients with severe brain damage are moving from a coma to various categories of disorders of consciousness and motor functions. The purpose of this work is to study skeletal muscles to find ways to predict the rehabilitation potential in this category of patients. The material for the study was 56 skeletal muscle biopsies from 16 patients of the Russian Polenov Neurosurgical Institute of medical in persons with various pathologies with a long-term violation of consciousness, who suffered a critical condition. All patients were diagnosed with critical condition polyneuropathy. The source of the biopsies was the deltoid and anterior tibial muscles.

A histological study was performed with an assessment of microscopic changes in the striated muscle using the original score of the listed changes. The constancy of the following morphological changes is shown: severe myocyte dystrophy in the form of widespread small-focal myolysis up to necrotic changes; atrophic

changes in myocytes of various degrees of severity; replacement of dead myocytes and foci of myolysis with connective tissue with the development of small-focal and large-focal myofibrosis; weak response of satellite cells with a tendency to decrease their numbers in the absence of morphological signs of inflammation.

Thus, the identified structural changes in the skeletal muscles in individuals with long – term impaired consciousness are of the same type of non-specific progressive degenerative-atrophic character with the development of irreversible sclerotic changes and weak regenerative response. These changes reflect the systemic nature of the pathological condition that led to multiple organ damage. Further study of the mechanisms of muscle atrophy and their possible regenerative potential contributes to the development of strategies for prevention and rehabilitation measures.

Supported by RFBR 19-29-01066.