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ULTRASTRUCTURAL CHARACTERISTICS OF MUSCULAR TISSUE DURING SURGICAL TREATMENT OF PATIENTS WITH III DEGREE CHRONIC ISCHEMIA OF LOWER LIMB

ABSTRACT. Background. Of particular note is the analysis of ultrastructural features of compensatory repair capabilities in terms of muscle ischemic injury developing in several ways: 1) direct induction of angiogenesis; 2) increased survival of muscle fibers; 3) mediated stimulation of muscle-typical differentiation; 4) resistance to apoptotic mechanisms. **Objective.** The purpose of research was the ultrastructural analysis of anterior tibial muscle in patients with III degree chronic ischemia of lower limb after direct, indirect and composite revascularization in near-term and long-term postoperative periods. **Methods.** Patients have been divided into three groups: 1) 37 patients after femoral-tibial reconstruction; 2) 57 patients after indirect revascularization with autotransplantation of bone marrow; 3) 50 patients after composite revascularization of distal part of lower limb. The observation was carried out in the near-term postoperative period and in 2 years. Ultrastructural study of tissue samplings of anterior tibial muscle taken between superior and middle one thirds was carried out. **Results.** It has been determined that direct revascularization causes the significant improvement ultrastructure of muscle fibers of anterior tibial muscle in all age groups during 6 months after operation, however does not provide the stabilization of positive changes in long-term postoperative period. Indirect revascularization does not change significantly structurally-functional condition of components of muscle in near-term postoperative period, however causes the stable normalization of parameters of tissue components due to initiation of neovasculogenesis at patients till 75 years. **Conclusion.** Composite revascularization allows to receive near-term normalizing effect concerning the studied ultrastructural criteria and to provide its stabilization in the long-term postoperative period.

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