RECONSTRUCTION OF UPPER LIMBS DEFORMITIES IN PATIENTS WITH SEQUENCES OF ELECTRICAL BURNS (212)

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Introduction: The patients with electrical burns in 93% cases have injury of upper limbs. 42.3% of patients have burns of distal part of the forearm and hand, 25.1% have burns of the hand and fingers. The electrical burns are characterized by multiple lesions: in 59.1% of cases patients have defects of two extremities; in 14.8% of cases - three limbs, 9.6% - four limbs and 16.5% - loss of one limb. In 63% cases the patients with upper limbs injury due to electrical burns need reconstruction operation. Rehabilitation of these patients is extremely difficult and in cases of severe injury the goal of surgical intervention is minimal improvement of their self-service. Some authors point to a more rapid rehabilitation of patients, which made amputation (35 - 72%) and a further prosthesis, compared with those who performed reconstructive surgery with insufficient results.

The goal of this research is demonstration of different variants of upper limbs deformities and their treatment due to electrical burns.

Methods: From 1990 to 2015 we examined 160 children (197 upper extremities) with sequences of electrical burns. Operation treatment was performed in 125 cases (219 operations). The age of patients was from 1 year to 16 years. It was carried out clinical, radiology, electrophysiology, neurology examination.

Results: There were several variants of localizations of sequences of electrical burns: shoulder girdle, arm, forearm, hand and fingers.

All pathologies were deviated into several groups: soft tissue deformities (scars, syndactyly, fingers and thumb contractures), soft tissue and bone deformities (bone defects, ankylosis, clinodactyly); soft tissue, muscles, bone deformities with nerves and vessels injury; the deformities connected with injury of all tissues of upper limb segment (stumps).

We performed two variants of surgical treatment of upper limbs deformities in patients with sequences of electrical burns: preparation for prosthetics and restoration of upper extremity function. Reconstruction surgery includes skin, tendon, nerves plastic in different variants. In cases with loss of fingers or thumb we performed pollicisation, transposition of the fingers, toe to hand transfer or we used the distraction method.

Conclusions: The proposed techniques of treatment patients with sequences of electrical burns allow to eliminate deformities restore upper extremity function and improve self-service of the patients.