Muscle pathology in UMN paraplegia

Patologia muscolare da lesione del primo motoneurone

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Abstract

Muscle pathology in upper motor neuron paraplegia

During the last 30 years acceptance of the muscle biopsy by paraplegic patients have accumulated a large body of knowledge on effects of spinal cord injury (SCI) on the skeletal muscle microstructure. Light and electron microscopy analyses combined with computerized methods provided a large body of knowledge on the progression of muscle atrophy and on the effects of rehabilitation strategies. Beside a summary of normal human muscle results, we will here discuss the time-course of muscle events related to SCI affecting the upper motor neuron. Furthermore the concomitant events on the microcirculation of skeletal muscle will be described in relation to the frequent complications of deep venous thrombosis, decubitus ulcers and paraosteoarthrosis.

Key Words: skeletal muscle, morphometry, paraplegia, upper motor neuron, microcirculation