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Study of microvessel architecture and distribution in soleus muscle after neural damage of Wistar rat

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Skeletal muscle denervation represents a group of affection of locomotor system capable to disable functional activities. In order to improve the rehabilitation process, all the elements in which compound the skeletal muscle should be consider. We studied the soleus muscle after surgery denervation through sciatic nerve section in adult male Wistar mice. After fifteen days of hindlimb palsy the soleus muscle atrophy was studied through the analysis of muscular weight and transverse sectional area of muscle fibers. After this, we analyzed fiber types with histochemical analyses for myofibrillar-ATPase reaction to appoint changes in contractile behavior of soleus muscle. The mophology of satellite's cells was studied using eletronic transmission microscopy images and the microvasculature architecture with corrosion casts in prepar for eletronic scanning microscopy. We observed that soleus muscle reduces 36% of mass, showing hypotrophy. Also, we verified an increase in the fast-twitch (type II) and indeferentiated fiber type revealing alteration in contractile muscle behavior. Considering the eletronic transmission mycroscopy datas, which reveals disarrangement of the skeletal muscle tissue with onesided prolongation of satellite cell, showing its migratory potential and capacity to regeneration the lesion's tissue. We compared all this results with the microvessel architetur using the eletronic scanning microscopy when we realize an important reduction in the cappilary espirilaments, probably in the areas where the skeletal muscle lost its contractile capacity and a reason capillar-fiber turns 35% smaller in experimental group. We conclude how important is the studies associating the microvessels arrangement in adaption of a skeletal muscle injury.

Biography

Sabrina Degaspari is formed in Physical Therapy and Pharmacology, has completed her Master degree in Morphology, concentration area Anatomy at São Paulo University and PhD in Biosciences, concentration area Neuropharmacology at São Paulo University. Actually, she teaches at Centro Universitário Lusíadas and Santa Cecília University and attend as a Physiotherapist at Corpo e Água clinic.

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