

Interaction of Norves and Muscles After Partial Denervation

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2002 Fiscal Year Final Research Report Summary

Interaction of Norves and Muscles After Partial Denervation

Research Project

Project/Area Number

12832017

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Institution

Kanazawa University

Principal Investigator

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Project Period (FY)

2000 – 2002

Keywords

partial denervation / Spionting / Soleus muscle / ヒラメ筋

Research Abstract

The effects of partial denervation of the rat soleus and sciatic nerve were studied by resecting the right L5 nerve. The cross-sectional areas of sciatic nerves and soleus muscles were examined with respect to the changes in muscle fiber types. The sciatic nerves and soleus muscles were removed 2,4,6 and 8 weeks after the operation. The soleus muscles were weighed immediately after removal and stained with routine ATPase staining, followed by examination of changes in type classification (Type II /Total muscle fibers) and cross-sectional areas. The cross-sectional myelinated areas did not change in the control group. For the partial denervation group, an increase in the cross-sectional areas at 4 and 6 weeks were seen. An overall decrease in corected muscle weight (soleus muscle weight mg/body weight g) was seen in the partial denervation group, but no changes were seen throughout the experimental week. The distribution of the cross-sectional area in partial denervated soleus muscle was shifted to the left at 2 weeks. The distribution began to par shift to the right at 4 weeks and there were biphasic left- and right-shifted groups at 6 weeks. Finally, the whole denervated group had shifted to the right by 8 weeks. The distribution of denervated muscles remained even throughout the 8 weeks. These findings indicate that, in the partially denervated muscle, recovery of the muscle atrophied through disuse and reinnervated muscle occurs first, followed by recovery of the remaining partially denervated muscle.

Research Products (2 results)

All Other

All Publications (2 results)

- [Publications] 池永 康規: "部分脱神経筋における神経筋の相互作用"金沢大学十全医学会雑誌. 110. 149-158 (2001)

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- [Publications] Yasunori Ikenaga: "Interaction of Nerves and Muscles After Partial Denervation"Journal of the Juzen medical Society. 110. 149-158 (2001)

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