

Post longitudinal extension of spinal cord injury in spinal and section and contusion

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2007 Fiscal Year Final Research Report Summary

Post longitudinal extension of spinal cord injury in spinal and section and contusion

Research Project

Project/Area Number

18591625

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Orthopaedic surgery

Research Institution

Kanazawa University

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Project Period (FY)

2006 – 2007

Keywords

spinal cord injury / spinal cord section / spine tumor

Research Abstract

The present study evaluated post longitudinal extension of spinal cord injury in spinal cord section and contusion.

Six dogs were used for the experiments of the acute phase and divided into two groups ; spinal cord section and spinal cord contusion. Spinal cord evoked potentials (SCEP) and Motor evoked potentials (MEP) were measured immediately after spinal cord oration and contusion. In the spinal cord section, the amplitudes of the SCEP decreased 2cm above section immediately after spinal cord section. In the spinal cord contusion, the amplitudes of the SCEP decreased 2 cm above contusion immediately attar spinal cord contusion.

Six dogs were used for the experiments of the chronic phase and divided into two groups ; spinal and section and spinal cord contusion. SCEP and MEP were measured one week after spinal cord section and contusion. In the spinal cord section, the amplitudes of the SCEP decreased 3.5 ± 0.3 cm above section one week after spinal cord oration. In the spinal cord contusion, the amplitudes of the SCEP decreased 25 ± 0.5 cm above contusion one week after spinal cord contusion.

Histology and microscopy of the dogs one week after spinal cord section and contusion were evaluated. In the spinal cord section, white and gray matter damage was seen 2-4 cm above spinal cord section. In the spinal cord contusion, a "tooth paste phenomenon" was recognized pathologically. This is a phenomenon that occurs when parenchymal tissue of spinal cord is squeezed and penetrates above and below the level of compression. Gray matter damage was seen 2-4 cm above spinal cord contusion. We considered that spinal cord section compressed spinal cord like spinal contusion. Because such a tooth paste phenomenon occurs when a spinal cord is ligated, transaction with a scalpel, instead of ligation, is desirable to avoid damaging spinal cord. The present study suggests that secondary spinal cord injury occurs several days after spinal cord injury.

Research Products (6 results)

All	2007	2006
All	Journal Article (4 results) (of which Peer Reviewed: 2 results)	Presentation (2 results)
[Journal Article]	Invasive features of spinal osteosarcoma obtained from whole-mount sections of total en bloc spondylectomy	2007 ▾
[Journal Article]	Invasive features of spinal osteosarcoma obtained from whole-mount sections of total en bloc spondylectomy	2007 ▾
[Journal Article]	Complete segmental resection of the spine, Including the spinal cord, for telangiectatic osteosarcoma: a report of 2 cases	2006 ▾
[Journal Article]	Complete segmental resection of the spine, Including the spinal cord, for telangiectatic osteosarcoma : a report of 2 cases	2006 ▾
[Presentation]	"en bloc"脊椎骨肉腫切除標本から得た新知見の手術へのフィードバック	2006 ▾
[Presentation]	Invasive features of spinal osteosarcoma obtained from whole-mount sections of total en bloc spondylectomy	2006 ▾

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