中枢神経損傷後の細胞外基質分解酵素の発現変化と細胞遊走・軸索伸長抑制機構の解明

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2003 Fiscal Year Final Research Report Summary

Retrograde neuronal cell death in the facial nucleus after axotomy in the brainstem -alteration of MMPs expression, cell migration and axonal regrowth-

Research Project

Project/Area Number

14571302

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Cerebral neurosurgery

Research Institution

KANAZAWA UNIVERSITY

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Keywords

MMPs / facial nerve injury / retrograde degeneration / Schwann cell / brainstem / facial nucleus / peripheral nerve transplantation

Research Abstract

The aim of this study is to establish a model to investigate the unknown mechanism of retrograde neuronal cell death in the facial nucleus after axotomy at various lesions.In addition, the neuroprotective effects of autografted peripheral nerve tissues, and alteration of MMPs expression are investigated.The models include brainstem injury model ; the genu of the facial nerve tract in the brainstem is stereotactically transected, control injury model ; the brainstem near the facial nucleus is injured without transection of the facial nerve tract, distal injury model ; the facial nerve is cut at the stylomastoid foramen, proximal injury model ; the facial nerve is avuked at the stylomastoid foramen resulting in more proximal transection than the distal injury model, and transplanted model ; PNS autograft is transplanted to the injury site of the brainstem injury model.On day 7, compared with the contralateral side, the survival ratio of motoneurons of the facial nuclei is 105.8±3.8% in t …▾ More

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