嚴重脊髓損傷之神經凋亡

Neural Apoptosis in Severe Spinal Cord Injury

中文摘要

凋亡，包含了許多退化性病變的發生程序，在過去文獻上已於老鼠脊髓撞擊的損傷模型報告中存在。本實驗是要探索於更嚴重的脊髓損傷，例如脊髓截斷後是否會發生凋亡以進而探討其影響的嚴重程度。爲了模擬最嚴重的臨床狀態，本實驗採用的模型爲成年 Wistar 老鼠胸椎第八節到第九節脊髓完全截斷，並使用 TUNEL 染色以及免疫螢光染色來評估凋亡細胞及其型態變化。爲計量凋亡細胞，本實驗使用 DNA 螢光流量計（DNA flow cytometry）來評估。根據 TUNEL 以及 CC1 螢光染色的結果，我們發現在損傷之後，凋亡發生於脊髓內含有髓鞘的寡突膠質細胞。

英文摘要

Apoptosis, involving cascades of degradative events, which have been noted after contusion injury to the rat spinal cord. The purpose of this investigation was to study what extent apoptosis occurs in the severe spinal cord injury as well as its course. Adult Wistar rats were used. To model the most severe clinical scenario, a T8-T9 spinal cord transection was performed for the study group. TUNEL staining and immunohistochemical staining was used to evaluate nuclear morphology. DNA flow cytometry was used to count the apoptotic cells. The occurrence of apoptosis in the myelin-producing oligodendrocytes was confirmed based on the double staining by both TUNEL and CC1 immunoassay.