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论著

颈椎稳定性异常对老龄小鼠脑海马caspase-3表达的影响

何静春[1],刑沈阳[2],李峰[1],赵雪俭[1],赵丽娟[1△]
吉林大学 1 基础医学院病理生理教研室,2 护理学院遗传教研室,吉林 长春 130021

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摘要 目的： 观察老龄小鼠颈部肌肉、韧带损伤对学习记忆、脑海马天冬氨酸半胱氨酸蛋白酶-3(caspase-3)表达的影响。方法： 手术复制改变小鼠颈椎稳定性模型，用水迷宫法检测小鼠学习记忆能力；用逆转录聚合酶链反应(RT-PCR)和免疫组织化学法，观察脑海马caspase-3的表达。结果： 与正常组比较，各模型组小鼠水迷宫实验中游全程时间延长、犯错误次数增加（P<0.05），且随周龄增加而越加显著；模型组小鼠脑海马caspase-3表达明显增强（P<0.05）。结论: 颈椎稳定性的改变可促进老年小鼠脑细胞凋亡，导致其记忆功能明显减退。

关键词 颈椎 记忆 细胞凋亡 半胱氨酸天冬氨酸蛋白酶 海马
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Effects of cervical vertebra destabilization on caspase-3 expression in the hippocampus of senile mice

HE Jing-chun[1],XING shen-yang[2],LI Feng[1],ZHAO Xue-jian[1],ZHAO Li-juan[1]

1 Department of Pathophysiology,School of Basic Medicine,2 Department of Heredity,School of Nursing,Jilin University,Changchun 130021,China.E-mail: Z-lj@jlu.edu.cn

Abstract
<FONT face=Verdana>AIM: To explore the expression of caspase-3 (cysteinyl aspartate-specific proteinase) and learning and memory abilities of senile mice after damaging the cervical muscle and ligament.
METHODS: The model mice of cervical vertebra destabilization were set up by operation.The abilities of learning and memory were detected by water maze test.Immunohistochemical staining with caspase-3 antibody and semi-quantitative reverse transcription and polymerization chain reaction (RT- PCR) were used to measure the changes of caspase-3 protein and mRNA expression.
RESULTS: The model mice had longer swimming full time and more error times (P<0.05) in water maze test compared with control group,which was more significant with increase in week age.Caspase-3 mRNA and protein simultaneously increased in all model groups.
CONCLUSION: Cervical vertebra destabilization promotes apoptosis of brain cells,and decreases the learning and memory abilities in senile mice.</FONT>

Key words Cervical vertebrae Memory Apoptosis Caspase-3 Hippocampus

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通讯作者 赵丽娟 Z-lj@jlu.edu.cn