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Study of the bioeffects of ionization radiation on TCR and CD_3 of peripheral T-cells in 5 cases with accidental exposure

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Abstract TCR gene, TCR, CD_3 expression, the function of TCR/CD_3 complex and the links between each other of them of the peripheral T-cells in 5 cases of accidental exposure to ionization radiation were studied. It was found in 2 cases 3.5 years exposure, the capacity of proliferation of the peripheral T-cells in response to the stimulation of CD_3 monoclonal antibodies (CD_3 McAb) was not recovered. The proliferative capacity of T-cells was larger when IL-2 and CD_3 McAb were used combinedly as the stimulant. In other 2 cases, the percentage of the positive cells to TCR and CD_3 was consistently lower than the control and other cases and rearranged hybrid DNA bend was seen in one case. The effect of TCR/CD_3 on the reaction of the mediation of T-cell antigen stimulation and the effect, consequence and significance of ionization radiation on TCR/CD_3 complex were discussed.

Key words radiation, ionizing; radiation injuries; acute diseases; receptors, antigen, T-cell; antigen expression

胎脑黑质脑内移植治疗帕金森氏病的实验研究*

Experimental studies on the treatment of Parkinson's disease by intracerebral transplantation

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本实验在建立多种稳定、敏感的地高辛标记反义cRNA探针的基础上,应用核酸原位杂交、斑点杂交定量、免疫组化(ABC法)、免疫印迹检测及电镜观察等方法研究了胎脑黑质脑内移植后神经再生和突触重建的标志物——GAP－43、βAPP表达的变化,观察了胎脑黑质移植物对宿主纹状体内ENK、NPY、D_2R基因表达的调控,发现了移植物长期存活后与宿主发生神经整合的直接和间接证据,比较了不同移植部位的效果,结果如下:

(1)应用光电矩阵原理研制成功了经济实用、精确度比较高的RC－1型大鼠旋转自动计数仪。

(2)首先报道了GAP－43 mRNA在正常成年大鼠CNS中的分布,发现了更多的GAP－43 mRNA杂交阳性脑区,并确认GAP－43 mRNA在成年大鼠脊髓中有表达。

(3)应用GAP－43 mRNA和βAPP斑点杂交定量,结合TH免疫组化、免疫印迹研究及PD动物行为学变化,发现胎脑黑质移植物在宿主脑内有"发育延迟"现象。

(4)ENK、NPY、D_2R基因的过度表达能在被移植的胎脑黑质与宿主整合后正常化。

(5)PD鼠行为及神经功能恢复正常可能是长期存活的移植物对宿主实现神经再支配的结果。

(6)本实验结果表明胎脑黑质脑实质内移植的效果优于脑室内移植的效果,可能与该方式有利于移植物对宿主失神经支配病损区实现神经再支配有关。

关键词 黑质/移植;Parkinson病/治疗;胎脑黑质;脑内移植

中图法分类号 R745.7

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