Expressions of Aβ<sub>1-40</sub>, Aβ<sub>1-42</sub>, tau<sup>202</sup>, tau<sup>396</sup> and tau<sup>404</sup> after intracerebroventricular injection of streptozotocin in rats

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Abstract: Objective To investigate the effects of intracerebroventricular (ICV) administration of streptozotocin (STZ) on the expressions of Aβ and hyperphosphorylation of tau protein in rat brain. Methods Twenty-four adult SD rats were randomized into 2 groups to receive ICV of STZ bilaterally at the dose of 3 mg/kg (with the injection repeated on day 3) or normal saline injection in an identical manner. Twenty-one days later, the expressions of Aβ<sub>1-40</sub>, Aβ<sub>1-42</sub>, tau<sup>202</sup>, tau<sup>396</sup> and tau<sup>404</sup> were investigated immunohistochemically. Results After STZ administration, the expressions of Aβ<sub>1-40</sub>, Aβ<sub>1-42</sub>, tau<sup>202</sup>, tau<sup>396</sup> and tau<sup>404</sup> increased in both the cortex and hippocampus in the rat brain. Conclusion ICV injection of STZ increases the expression of Aβ and promotes hyperphosphorylation of tau protein.

Key words: Alzheimer's disease; intracerebroventricular injection; beta amyloid protein; tau protein
STZ 10 μL (3 mg/kg b.w.) 1.5 mm, 3 mm STZ. ♂ ♀ 1.3 1.4 1.5 1.6

SABC, 1:100 Aβ1-40 (DAB), 1:200 Aβ1-42 (DAB), 1:100 tau202, 1:200 tau396, 1:100 tau404 (Santa Cruz).

Fig.1 Expressions of Aβ and tau in rat hippocampus 21 days after bilateral intracerebroventricular injection of STZ (SABC, original magnification: ×400)

Tab.1 Image analysis results of immunohistochemical staining for Aβ1-40, Aβ1-42, tau202, tau396, tau404 in rat hippocampus of the two groups (PU value, Mean±SD)

<table>
<thead>
<tr>
<th>Group</th>
<th>Aβ1-40</th>
<th>Aβ1-42</th>
<th>tau202</th>
<th>tau396</th>
<th>tau404</th>
</tr>
</thead>
<tbody>
<tr>
<td>STZ injection</td>
<td>9.16±1.56*</td>
<td>14.17±3.95*</td>
<td>14.17±3.94*</td>
<td>13.12±3.05*</td>
<td>13.86±2.36*</td>
</tr>
<tr>
<td>Normal saline</td>
<td>6.45±0.75</td>
<td>8.20±1.69</td>
<td>6.87±2.12</td>
<td>8.01±2.47</td>
<td>8.67±2.29</td>
</tr>
</tbody>
</table>

*P<0.05 vs normal saline
3

APP β-amyloid precursor protein, APP  

Aβ APP  

ATP  

STZ  

21 d  

AD  

tau  

tau  

STZ  

I/IR  


[7] [J].  

[8]  


癌基因的异常变化

细胞疾病中的表达情况

前我们通过原位杂交

数仅造成局部侵犯

显著增强

因学病变机制

因参与抑制或者促进肿瘤转移

侵入子宫内膜

第

月

再形成绒毛及胎盘的过程中

及其在肿瘤细胞浸润

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Chapter 3: The Role of Cancer Genes in Gynecological Disease


