实验研究

# “嗅三针”对AD小鼠海马iNOS和磷酸化tau蛋白表达的影响*

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**摘　要：目的** 观察嗅三针对阿尔茨海默病（AD）小鼠海马iNOS和磷酸化tau蛋白表达的影响，探讨其治疗AD的作用机制。**方法** 将40只AD小鼠随机分为模型组、嗅三针组、嗅神经切断嗅三针组和盐酸多奈哌齐组，10只同窝阴性小鼠组成对照组。对照组和模型组于每日同一时段进行同种程度抓取，不干预，嗅三针组采用电针刺激，选取“印堂”和双侧“迎香”三穴为干预穴位，留针20min，盐酸多奈哌齐组采用盐酸多奈哌齐灌胃，每周干预5次，间歇2天，共干预4周。干预结束后，运用Western blot法检测小鼠海马p－tau Thr181蛋白表达，运用免疫组化法检测小鼠海马iNOS蛋白表达。**结果** 模型组与对照组比较，小鼠海马p－tau Thr181和iNOS蛋白表达显著增加（$P<0.01$）；与模型组比较，嗅三针电刺激和盐酸多奈哌齐灌胃能够显著降低小鼠海马p－tau Thr181和iNOS蛋白表达（$P<0.05$），嗅神经切断嗅三针组对其无明显影响（$P>0.05$）；嗅三针组与盐酸多奈哌齐组比较，无显著性差异（$P>0.05$）。**结论** 嗅三针可能基于嗅觉通路的完整性，发挥降低AD小鼠海马炎症因子iNOS和磷酸化tau蛋白的表达的作用。

**关键词：**阿尔茨海默病；嗅三针；p－tau；iNOS；海马

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# Effect of "Sniffing Three Needles" on Expression of iNOS and Phosphorylated tau Protein in Hippocampus of AD Mice

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**Abstract　Objective**: To observe the effect of "sniffing three needles" on expression of iNOS and phosphorylated tau protein in hippocampus of AD mice and its mechanism of action in treating AD. **Method**: 40 AD mice were randomly divided into model group, sniffing three－needle group, three－needle olfactory nerve transection? group and donepezil hydrochloride group, and 10 littermates were used as control group. The control group and the model group were subjected to the same degree of grasping at the same time every day without intervention, the sniffing three－needle group was stimulated by electroacupuncture on three intervention points of “Yintang” and “Yingxiang” in the two sides, and the needle

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