

P01-94

EFFECTS OF CHINESE HERB DANSHEN-DAHUANG ON HIPPOCAMPAL GENE EXPRESSION OF APP AND PS1 IN RATS WITH ALZHEIMER DISEASE

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Aims: To investigate the effect of Chinese herb Danshen-Dahuang on learning and memory ability in rats with Alzheimer disease (AD) induced by D-galactose and AICl₃ and its possible mechanisms.

Methods: The AD model was produced by injecting D-galactose and AICl₃ intraperitoneally for 90 days. Since the 20th day of D-galactose and AICl₃ intraperitoneal injection, the rats in Danshen-Dahuang group had been treated with Danshen-Dahuang extraction by intragastric administration for 70 days. Subsequently, learning and memory ability of the mice was evaluated by Morris water maze and hippocampal gene expression of APP, PS1 was tested by reverse transcription polymerase chain reaction (RT-PCR).

Results: Rats intragastric administration with Danshen-Dahuang, mice had shorter latency ($P < 0.05$) and less error times ($P < 0.05$) in water maze test compared with those in AD model group. At the same time, Danshen-Dahuang down regulated the expression of APP, PS1 mRNA ($P < 0.05$) in hippocampus.

Conclusions: Danshen-Dahuang improves the learning and memory ability of AD rats, its mechanism may be related to the downregulated expression of APP, PS1 mRNA.