

by acupuncture stimulation are important acupuncture-induced benefits in this animal model of depression.

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P1.034

Effects of Electro-acupuncture (EA) on the Behavioral changes and presenilin-1 (PS1) level in hippocampus of SAMP8 mice



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Purpose: To observe the effects of EA on the expression of PS1 protein level in hippocampus of SAMP8 mice. Investigating the mechanism of EA in therapeutic intervention of Alzheimer Disease (AD).

Methods: Ten male SAMR1 mice as the Normal control group. Twenty male SAMP8 mice were randomly divided into Model group and EA group (n=10 in each group). EA was stimulated at Baihui (GV20) and Yintang (GV29) for 20 min once a day (2 V, 1 mA). After 15 days, learning and memorizing abilities of mice were detected through Morris water maze. Observe the morphologic changes of PS1 and related metabolites in hippocampus through immunohistochemistry. Detecting PS1 level in hippocampus through Western blot method.

Results: 1) Each group showed a significant difference in latency time in different days. 2) Compared with normal control group, Model group showed an increasing latency time and a decreasing swimming time to passing through the platform and quadrants ($P < 0.05$, $P < 0.01$), while EA group showed an obvious decreasing latency time ($P < 0.05$, $P < 0.01$) and an increasing swimming time ($P < 0.01$). 3) Immunohistochemical detection showed mice in EA group had a significant reduction in the expression of PS1 level in hippocampus while compared with the Model group. 4) Findings of Western blot revealed that compared with Model group, mice in Normal control group and EA group both had a reduction of PS1 content in hippocampus ($P < 0.05$).

Conclusion: EA could have a certain effect to improve the learning and memorizing abilities of SAMP8 mice and, to some extent, may be able to help prevent AD. However, the regulating effect of EA on PS1 level is much greater, this outcome could be seen as one of the mechanisms of treating AD.

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Effect of Electro-Acupuncture on Behavioral Changes, A β and LRP1 level in Cortex of APP/PS1 Transgenic Mice



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Purpose: To observe whether LRP1 can be improved by electro-acupuncture (EA) to strength the clearance of A β in APP/PS1 transgenic mice, and to explore the mechanism of the EA therapy for Alzheimer's disease.

Methods: Thirty-two 6-month-old APP/PS1 transgenic mice were randomly divided into model group and EA group, with sixteen C57BL/6 wild type mice as the normal control group. The Morris water maze was used to assess learning- memorize ability. Immunohistochemical method was used to observe the LRP1 and A β 1-42 expression in the cortex. A β 1-42 was detected by Enzyme-linked immunosorbent assays (ELISA) method and LRP1 was tested by Western Blotting in the cortex.

Results: The Morris water maze test showed the escape latency of model group increased, the number of platform- site crossover and the swimming distance in platform quadrant of model group were reduced compared with the control group ($P < 0.05$, $P < 0.01$), while the EA group could revise them ($P < 0.05$). The ELISA result showed that the A β 1-42 in the cortex of EA group obviously decreased compared with the model group ($P < 0.01$). The level of LRP1 in the model group were lower than that in the control group ($P < 0.01$), while the EA group could raise its expression ($P < 0.01$).

Conclusion: EA therapy can improve the learning-memorize ability of the APP/PS1 transgenic mice, decrease the level of A β in cortex of them. The mechanism may be related to the up-regulation of A β transport receptor LRP1.

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Effect on Electro-acupuncture Intervention on Hippocampus A β Stain and Ultrastructure in APP/PS1 Double Transgenic Rats



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Purpose: To observe the influence of the electro-acupuncture(EA) for APP/PS1 double transgenic rat on spatial learning- memorize behavior, hippocampal A β stain and ultra-structure.

Methods: Use 9-month-old APP/PS1 double transgenic rats according to the random assignment method divided into model group, the EA group and drug(AChE) group within 11 rats in each group, use the same months old rats with brood recessive gene as control group. Treatment was applied to "Baihui"(GV20) and "yongquan"(KI1) for 15mins, once every 2 days for 5weeks; For the drug group, 0.92 ml/g of acetylcholine enzyme was given by gavage, once a day. Morris water maze test the ability of learning-memorize in rats and space exploration ability, take the brain hippocampus to make immunohistochemistry and transmission electric lens and observe.

Results: Morris water maze test result shows that the model group compared with control group and EA group has statistically difference ($P < 0.05$); Space exploration experiment: model group in the region of the original platform quadrant (the third quadrant) activity time significantly lower than the control group and EA group ($P < 0.05$), Immunohistochemistry results shows that in model group and drug group has A β stain on hippocampal; On transmission electron microscopy (sem) results showed that on both model group and drug group has senile plaque.

Conclusion: 10-month-old APP/PS1 transgenic rats has senile plaque; EA therapy can improve the APP/PS1 double transgenic rats learning-memorize ability, have good adjustment function to the hippocampus. These performance of EA could be improved AD's one of the mechanism of the behavior of learning and memorize ability.

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Effect of Electro-acupuncture Intervention on Learning-memory Ability and Hippocampus Ultrastructure in APP/PS1 Double Transgenic Rats



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Purpose: To investigate the effects of the electro-acupuncture (EA) for APP/PS1 double transgenic rat on both spatial learning- memorize behavior and hippocampal ultrastructure.

Methods: Divide 36 4-month-old APP/PS1 double transgenic rats into 3 groups, which are the model group, the EA group and the drug(AChE) group, by using the random assignment method. 12 4-month-old rats with brood recessive gene were taken as the control group. For the EA group, "Baihui"(GV20) and "yongquan"(KI1) were given treatment for 15 minutes every other day, lasting for 5 weeks. Gaviging with 0.92 ml/g of acetylcholine enzyme was given to the drug group. Test the learning-memorize ability and space exploration ability of the rats by using the Morris water maze. Observe slices of

the brain hippocampus CA1 area with transmission electron microscope.

Results: According to the results of the Morris water maze test, there is statistical difference between the model group and the control group ($P < 0.05$). Space exploration experiment: the activity time of the model in the region of the original platform quadrant (the third quadrant) is much lower than the control group ($P < 0.05$). The result from transmission electron microscopy shows that the micrangium, synapses and untrastructure of the control group are better than the model group.

Conclusion: EA therapy can be used to improve the learning-memorize ability of APP/PS1 double transgenic rats, and makes positive adjustment to the ultrastructure of hippocampus. These experiment results may be a mechanism of using EA therapy to improve AD rats' learning and memorize ability.

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Bee venom suppresses the differentiation of preadipocytes and high fat diet-induced obesity through inhibiting adipogenesis



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Purpose: Bee venom (BV) is has been widely used in the treatment of some immune-related diseases. BV has been used traditionally for the relief of pain and the treatment of chronic inflammatory diseases. In addition, recent studies reported that BV inhibited proliferation of carcinoma cells via induction of apoptosis. In spite of large use, there is a shortage of documented evidence to demonstrate its medicinal utility against obesity.

Methods: In this study, we demonstrated the inhibitory effects of BV on adipocytes differentiation in 3T3-L1 cell and high fat diet (HD)-induced mouse model through inhibiting adipogenesis. Male C57BL/6 mice fed a HD for 8 weeks to induced obesity, and BV (0.1 mg/kg or 1 mg/kg) or saline were injection in the last 4 weeks.

Results: BV inhibited lipid accumulation by Oil red O staining without cytotoxicity in 3T3-L1 cell. Compared to saline-injected mice, BV-injected mice showed reduced body weight gain. BV inhibited adipogenesis by down-expression of transcription factors, CCAAT/enhancer-binding proteins (C/EBPs) and peroxisome proliferator-activated receptor gamma (PPAR- γ) using qRT-PCR and western blotting.

Conclusion: These findings showed that BV mediates anti-obesity/differentiation effects by suppressing obesity-related transcription factors. This research was supported by Basic Science Research Program through the National Research