Biochemical effect of a novel acetylcholinesterase inhibitor on Alzheimer disease

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Objective: To investigate the biochemical effects of a novel acetylcholinesterase inhibitor (NAI) on the activity of the enzyme in hippocampal formation and provide basic scientific data for the clinical treatment of AD patients.

Methods: Forty male Wistar rats of 3-5 months old were selected. Among them, 30 AD rats' models were established by cutting off the fimbria of hippocampus. The eighth day after operation, rats were treated with intravenous injection of NAI and the hippocampal formations in each group were tested biochemically with spectrophotometer.

Results: The activity of AChE in the cell plasma of hippocampal formation in AD patients was significantly lower than that in the control group (P<0.01). In addition, the activity of AChE in the red cell membrane of AD patients was significantly lower than that in the control group (P<0.01).

Conclusion: The NAI (activity substance) can inhibit the activity of acetylcholinesterase, thereby inhibiting the enzyme activity of AChE in the hippocampus, which is stronger than that of heparine A, so it has an effective effect in AD treatment.
