



Effect of phosphatidylserine on memory in patients and rats with Alzheimer's disease

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ABSTRACT. The aim of this study was to investigate the effect of phosphatidylserine (PS) on memory of patients and rats with Alzheimer's disease (AD). In total, 57 AD patients were recruited from our hospital, and were divided into two groups: 25 in the control group and 32 in the observation group. Next, 300 mg/d of PS was given to the rats in the observation group for 12 continuous weeks based on the control group. AD rats were divided into three groups: control group, PS 30 mg/kg group, and PS 15 mg/kg group. Learning memory ability and free radical levels in the brain were detected after treatment. In AD patients, vocabulary and picture matching scores in the two treatment groups increased after treatment ($P < 0.05$). Moreover, the scores in the treated group were significantly greater than the control group ($P < 0.05$). In AD rats, PS treatment reduced the escape latent period of AD rats, increased SOD and OH^- , and decreased acetylcholinesterase levels ($P < 0.05$). Compared with PS 15 mg/kg, PS 30 mg/kg group was significantly more efficacious ($P < 0.05$). Compared with the AD model group, hippocampal cells showed normal arrangement, karyopyknosis decreased, and the pathological changes in the two PS groups were considerable. In conclusion, PS decreased cholinesterase, improved memory, and improved hippocampal inflammation injury in AD brains by increasing SOD and OH^- levels.

Key words: Phosphatidylserine; Alzheimer's disease; Memory