

CHRONIC INHIBITION OF ANGIOTENSIN CONVERTING ENZYME HAD NO EFFECT ON SPATIAL LEARNING AND MEMORY IN RAT

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Vast variety of controversial results recently shows the involvement of brain renin angiotensin system in cognition. The aim of the present study is to determine the physiologic role of angiotensin converting enzyme (ACE) in spatial learning and memory in normal rats.

Male normotensive rats (300-350gm) were randomly divided into five groups, one control group, orally treated with normal saline (1ml/kg body weight) and the other four groups with the ACE inhibitor, perindopril, at doses of 0.5, 1, 2 and 4 mg/ml/kg.bw once daily for four weeks. At the end of the third week blood pressures were taken by tail cuff and rats undergo learning and memory test using water maze task.

Over five consecutive days which acquisition tests were done, all groups showed significantly a reduction in latency time to find a submerged platform. On day six, 60 second probe trial for assessment of recall, showed that the time spent in target quadrant increased significantly ($p < 0.01$) in all groups. Although all perindopril treated groups showed significantly reduced blood pressure compare to control ($p < 0.05$), there was no significant difference in latency and target quadrant duration between all groups.

From the results of this study it may be concluded that changes in ACE levels may not have any effect on spatial learning and memory in normal rats.