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Poster Presentation

Dextran Curcumin Promotes Novel Object Recognition Memory in Rats after Ischemic Stroke

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Abstract

Ischemic stroke causes the depletion of energy and induces excitotoxicity and neuroinflammation in the brain that results from thrombotic blockage. Cerebral ischemia leads to many types of memory loss, including impairment of working, spatial and object recognition memoreis. Curcumin shows strong anti-oxidoinflammatory activities but it terapathics limited by its low solubility in water and corresponding poor intestinal absorption. So, in this study curcumin used in conjugate with dextran as polymeric carriers in novel drug delivery system. The purpose of this study was to determine the effect of dextran-curcumin on memory impairment induced by global ischemia. In this study 35 rats individed 5 groups. Pre-treatment and positive control groups, were treated with curcumin and dextran- curcumin (15mg/kg - orally) for 30 days and the vehicle and disease groups received distillated water. For induction of ischemic stroke model, rat were anaes thetized and both right and left carotid arteries were selected and clamped for 5 min by vascular clamps (time of ischemia), There after the vascular clamps were removed for the next 10 min (time of reperfusion), and both carotid arteries were clamped again for 5 min. Finally, the vascular clamps were removed and blood circulation was return in both carotid arteries, 48 hours after induction of model, Novel Object Recognition test was used to determine memory impairment in all rats. Our study indicated that memory impairment increace in ischemic groupe and dextran curcumin has memory-improving effects after global ischemic stroke ($p< 0.01$): Dextran-curcumin has memory-improving capacity better than curcumin in lower does.

Keywords: Dextran-Curcumin, Memory, Ischemic Stroke

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