

The effect of rosmarinic Acid on Liposaccharide-induced memory deficit in rat

Soroush Mazloomi¹, Tajmah Mombeini^{2*}, Mehrdad Roghani³

1. School of Medicine, Shahed University, Tehran, Iran
2. Department of Pharmacology, School of Medicine, Shahed University, Tehran, Iran
3. Neurophysiology Research Center, Shahed University, Tehran, Iran

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Background and Objective Alzheimer disease (AD) is the most common type of dementia, and is currently incurable; Current treatments for AD produce only a modest amelioration of symptoms. Rosmarinic acid is a polyphenol with anti-inflammatory, antioxidant and neuroprotective properties. The aim of this study was to investigate possible effect of rosmarinic acid (RA) on lipopolysaccharide-induced memory and learning deficit in rat.

Materials and Methods: 32 male rats were randomly divided into 5 groups: control, rats treated with saline and RA 20 mg/kg (RA20), rats treated with LPS, and two LPS groups treated with RA at doses of 5 and 20mg/ kg (LPS-RA5 and LPS-RA20). Rats treated were received saline or RA, daily by gavage for seven days. For induction of memory deficit, the LPS dissolved in normal saline at dose of 1mg/kg was injected intraperitoneally on the first day, one hour before the administration of drugs. After 24 h of the last dose, for evaluation of memory, passive avoidance test was performed.

Results: Results showed that in the LPS-RA20, treatment with RA had no significant effect on the initial latency. However, step-through latency was significantly increased, compared with the LPS group.

Conclusion: The results of this study indicated the beneficial effects of RA on improvement of memory in rats.

Keywords: Rosmarinic acid, Lipopolysaccharide, passive avoidance, rat