



The 2nd International Neurotrauma Congress & the 4th International Roads Safety Congress

Shefa Neuroscience Research Center, Tehran, Iran, 18-20 February, 2015

The Neuroscience Journal of Shefaye Khatam

Volume 2, No. 4, Suppl. 3

Poster Presentation

Evening Primrose Oil Improves Nerve Functions Following Crush Injury of Sciatic Nerve in Rats

Omid Badri^{1*}, Parviz Shahabi², Mehdi Farhoudi², Mohsen Sharif-Zak³, Armin Azadi⁴

¹Department of physiology, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.

²Neuroscience Research Center, Tabriz University of Medical Sciences, Tabriz, Iran.

³Department of Biochemistry, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran.

⁴Department of Management of Informatics. School of Management, Tabriz University of Medical Sciences, Tabriz, Iran.

Published: 18 February, 2015

Abstract

Repairing the damaged nerves caused by physical injury (trauma), is one of the major challenges facing modern medical sciences. Evening primrose oil (EPO) extraction of *Oenothera Biennis* seed that enriches with omega-6,-linoleic acid and linoleic acid that they have essential role in myelination and neural membrane structure. The aim of this study was to evaluate the functional recovery of sciatic nerve after EPO administration in crushed sciatic nerves. Eighteen male Wistar rats with 180-200g weight divided in 3 groups: sham, saline, EPO. In 12 anesthetized rats in saline, EPO groups, the right sciatic nerve was crushed using a small hemostatic forceps. EPO, 450 mg/kg/day, was orally administrated for 28 days. Gastrocnemius muscle atrophy was investigated using light microscopy. Functional recovery of the nerves was assessed using sciatic functional index SFI one day before injury and 7, 14, 21 and 28days after injury. The result of this study showed that in EPO group, functional recovery of sciatic nerve significantly accelerated compared with group 2 that received saline. In addition the muscular atrophy improvement was greater in EPO group compared with saline group. The present study showed that EPO induced improving effect on motor function and muscular atrophy caused by nerve crush injury.

Keywords: Crushed Sciatic Nerve, Evening Primrose Oil, Sciatic Functional Index.

***Corresponding Author:** Omid Badri

E-mail: m_s_omid@yahoo.com