

## عنوان مقاله:

Gallic acid and exercise training improve motor function, nerve conduction velocity but not pain sense reflex after experimental sciatic nerve crush in male rats

## محل انتشار:

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## نویسندگان:

Maryam Hajimoradi - *Department of Biology, Faculty of Basic Sciences, Isfahan Payamnoor University, Isfahan, Iran*

Mohammad Fazilati - *Department of Biochemistry, Faculty of Basic Sciences, Payamnoor University, Tehran, Iran*

Mohammad Kazem Gharib-Naseri - *Ahvaz Physiology Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran*

Alireza Sarkaki - *Department of Physiology, School of Medicine, Ahvaz Jundishapur University of medical Sciences, Ahavaz, Iran*

## خلاصه مقاله:

**Objective:** The aim of present study was to evaluate the effects of oral administration of gallic acid (GA) for 21 days alone and in combination with exercise on nerve conduction velocity and sensory and motor functions in rats with sciatic nerve crush. **Materials and Methods:** Seventy adult male Wistar rats (250-300 g) were divided randomly into 7 groups with 10 in each: 1) Control (Cont), 2) Crushed + Vehicle (Cr + Veh), 3-5) Crushed + gallic acid (Cr+GA) (50, 100, and 200 mg/kg/2 mL, orally), 6) Crushed + exercise (Cr+Exe), and 7) Crushed + exercise + effective dose of gallic acid (Cr+Exe +GA200) for 21 days. In order to establish an animal model of sciatic nerve crush, equivalent to 7 kg of force pressed on 2-3 mm of sciatic nerve for 30 s, three times with 30 s intervals. Pain sense reflex in hot plate, motor coordination in rotarod, and sciatic nerve conduction velocity (SNCV) in all groups were tested. Data were analyzed using one-way ANOVA followed by Tukey's post hoc test and pResults: Pain threshold was increased significantly in untreated crushed rats while motor function and SNCV were decreased in all groups with nerve crush ( $p<0.05$ ,  $p<0.01$ , pConclusion: GA, dose-dependently, may have therapeutic potential to improve the peripheral nerve degeneration, which is most likely related, at least in part, to its antioxidant and therapeutic properties

## کلمات کلیدی:

Sciatic nerve crush, Gallic acid, Exercise, Pain, Motor, SNCV, Rat

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