

Original Paper

Effect of hydro alcoholic extract of *Plantago major L.* on pentilentetrazol-induced seizures in male mice

Kavyanifard S (M.Sc)¹, Heidarieh N (Ph.D)*², Jamalo F (Ph.D)²
Alinejad G³, Alinejad M (M.A)⁴, Mohammad Eini A (M.Sc)⁵

¹M.Sc in Physiology, Department of Biology, Qom Branch, Islamic Azad University, Qom, Iran. ²Assistant Professor, Department of Biology, Qom Branch, Islamic Azad University, Qom, Iran. ³Veterinary Student, Member of Veterinary Medicine, Science and Research Branch, Islamic Azad University, Tehran, Iran. ⁴Master of Poultry, a member of the Technology poultry, Qom, Iran. ⁵M.Sc in Histology, Young Researchers and Elite Club, Science and Research Branch, Islamic Azad University, Tehran, Iran.

Abstract

Background and Objective: Epilepsy is a common neurological disorder. *Plantago major* (*P.major*) is used in traditional medicine due to flavonoids and vitamic C and antioxidant properties. This study was done to evaluate the hydro alcoholic extract of *Plantago major L.* on pentilentetrazol-induced seizures in male mice.

Methods: In this experimental study, 50 NMRI male mice randomly allocated into control and four experimental groups. Seizures in animals induced by 60 mg/kg/bw of pentilentetrazol (PTZ), interperitoneally. Animals in experimental groups were received 5, 10, 25 and 50 mg/kg/bw of hydro alcoholic extract of *Plantago major L.* 30 min before each PTZ injection. The animals in control group were received saline, interperitoneally. After treatment, the behavior of animals during 20 minutes and mortality rate were recorded.

Results: Seizure threshold of animals significantly increased in experimental groups which were received 50, 25, 10 mg/kg/bw of *P.major* extract in comparision with controls ($P<0.05$). Mortality rate of animals significantly reduced in experimental groups which were received 50, 25, 10 mg/kg/bw of *P.major* extract in comparision with controls ($P<0.05$).

Conclusion: The hydro-alcoholic extract of *Plantago major L.* reduces seizure threshold in pentilentetrazol-induced seizures mice.

Keywords: *Plantago major L.*, Pentylentetrazole, Seizure threshold, Mouse

* Corresponding Author: Heidarieh N (Ph.D), E-mail: nheidarieh@yahoo.com

Received 22 Nov 2014

Revised 16 Mar 2016

Accepted 16 Mar 2016