715) The effect of harmaline on amygdala kindling acquisition in rats

Alenajaf Azam 1 - Presenter, Fereidoni Masoud 2, Mohammad-Zadeh Mohammad 3 - Corresponding, Moghimi Ali 4

Affiliation:
1- Dept. of Biology, Ferdowsi University of Mashhad, Mashhad, IRAN
2- Dept. of Biology, Faculty of Science, Ferdowsi University of Mashhad, Mashhad, IRAN
3- Cellular and Molecular Biology Research Center, Sabzevar University of Medical Sciences, Sabzevar, IRAN
4- Department of Biology, Faculty of Sciences, Ferdowsi University of Mashhad, Mashhad, IRAN

Background and Aim: Harmaline is one of betacarbolines of harmala that has important effects on body, especially the nervous system. Since probably harmaline has convulsing effects, the aim of this study is to examine the effect of harmaline on amygdala kindling acquisition in rats.

Methods: In this experimental study, three group of male wistar rats (300-350g), after stereotaxic surgery and one week recovery period, received kindling stimulations (twice daily at 6 hour interval). Group 1 (n=5) was the animals which received daily kindling stimulations. 30 min before kindling stimulation, animal were received saline (1ml/kg) and harmaline (5 mg/kg) in group 2 and 3 (n=5) respectively. Cumulative Afterdischarge duration (ADD), Cumulative Seizure duration (SD) and Seizure Stage (SS) were recorded and compared with control animals.

Results: Intraperitoneal administration of harmaline increased cumulative ADD (p<0.3) and cumulative SD (p<0.3) relative to control group. It also reduced the mean number of stimulations to achieve to seizure stages of 2 (P<0.05), and 1 (p<0.001).

Conclusion: According to obtained results, application of harmaline reduce the time required for amygdala kindling and may have proconvulsant effects.

Keywords: Amygdala, Kindling, Harmaline, Rat.