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

Enhancement of Seizure Incidence after Traumatic Brain Injury

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Published: ***18 February, 2015***

Abstract

Traumatic brain injury (TBI) is an important clinical problem in the worldwide and especially due to breaking driving rules in IRAN, but undesirable consequences of trauma can persist for the rest of patient's life. We investigated the effect of a novel weight drop model of TBI on incidence of seizure 2 weeks after TBI. In this regard, 21 male Wistar rat weighted 250-300 gr randomly were divided into 3 groups: 1) Sham (n=7) 2) Pentylenetetrazole (PTZ) (n=7) 3) TBI+PTZ (n=7). Firstly, TBI was induced in the middle of right parietal bone by releasing of 500 gr weight after removing of skin and exposure of skull. Seizure susceptibility was evaluated by injection of a subconvulsant dose of a GABA inhibitor drug, PTZ. Animals were observed during 1 hour after drug administrations and score of seizure was determined according to Racine's scale. Our finding show TBI remarkably increase the rate of tonic-clonic seizure incidence in compared to other groups. In the sham group 0%, PTZ 20% and 80% in TBI group showed tonic-clonic seizure, respectively. In TBI-PTZ group both the rate and score of seizure were significantly higher than sham and PTZ groups. According to our results induction of TBI (by our newly described weight drop model) increases the seizure susceptibility in the male wistar rats.

Keywords: Brain Injury, Pentylenetetrazole, Neurotrauma.

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