

عنوان مقاله:

The Effect of γ -Archidonoyl Glycerol (γ -AG) as an Endocannabinoid on Tonic- Clonic Seizures Induced by
(Pentylene-tetrazol (PTZ

محل انتشار:

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خلاصه مقاله:

Background and Objective: In spite of various and effective anti seizure drugs available, 30% of epileptic patients are not adequately treated with current medications. Based on the effectiveness of phytocannabinoids on epileptic and seizure models, in this study the effects of γ -achidonoylglycerol (γ -AG) injection, as an important endocannabinoid, on tonic-clonic seizures induced by pentylene-tetrazol (PTZ) was examined. **Materials and Methods:** The study was performed on male wistar rats (180-200 g). Tonic-clonic seizures were induced through a single intra-peritoneal injection of PTZ (40 mg/Kg) and then seizure behavior was monitored for 30 minutes. The intra-peritoneal injection of γ -AG (1 mg/Kg) in dimethyl sulfoxide (DMSO) was performed 15 minutes before the PTZ injection. In the sham group an equivalent volume of DMSO was injected 15 minutes before PTZ. Data on the delay of seizure stage occurrence, duration of the stages, number of occurrences for each stage and mortality rate due to tonic-clonic seizures were collected for analysis. **Results:** PTZ injection in association with DMSO significantly increased the delay for seizure stages 1 and 2, in comparison with just a PTZ injection ($P<0.05$), but had no significant effect on the duration and delay of seizure stages 3-5. Intra-peritoneal injection of γ -AG in association with DMSO before the injection of PTZ had no significant effect on the delay and duration of seizures but reduced the occurrence of each seizure stage and also reduced mortality due to tonic-clonic seizures in comparison with PTZ injection associated with DMSO. The mean seizure stage was also significantly decreased ($P<0.05$). **Conclusion:** It seems γ -AG injection could be effective in reducing seizure parameters in seizures induced by PTZ.

کلمات کلیدی:

Keywords: Cannabinoid, Seizure, DMSO, Pentylene-tetrazol

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