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Effect of Aquatic Extracts of Wormwood and Hyssop on Pentylene Tetrazole-Included Seizure in Male Rats

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ABSTRACT

Introduction: Epilepsy is one of the most common neurological disorders after a stroke. Due to drug resistance and side effects of chemical drugs in epilepsy, which is a chronic disease, herbal compounds have been studied. The present study aimed to determine the anticonvulsant effects of an aquatic extract of Wormwood and Hyssop on Pentylenetetrazole (PTZ)-including seizure in male rats.

Methods and Materials: In this experimental study, 19 albino male rats were randomly divided into five groups, four groups, four with pcs and 1 group with three pcs; all study groups were injected intraperitoneally (IP). The negative and positive control groups received saline (50 mg/kg) and Phenobarbital (50 mg/kg). The treatment groups received an aquatic extract of Wormwood (50 mg/kg), an aquatic extract of Hyssop (50 mg/kg), and a mix of aquatic extract of Wormwood and Hyssop ratio of 1:1 (50 mg/kg). To provoke convulsion, after 30 minutes, PTZ was injected (90 mg/kg) into all research groups; accordingly, the initiation time of myoclonic and Tonic-Clonic seizures and the frequency of 24-hour death were measured.

Results: The obtained results indicated a mean delay in disease (P0.0278). In the third stage of seizure (the wave of the entire body axle contraction), analysis of the mean results of treatment groups was significant compared to the negative control group (p = 0.0040). The fourth stage, the comparative diagram (Body mechanics and limb jumping), is a significant statistical test (p = 0.0064). Stage 5 (Seizure) (Comprehensive Clonicm) comparing the mean of the data is significant (P0.0328). In stage 6 (Seizure) (Generalized with an abrupt tonic contraction), the mean of all treatment groups compared to the negative control group was significant (p = 0.0001). The mortality rate was not observed in any favorable treatment or hostile control groups; only the control group had a 75% mortality rate.

Conclusion and Discussion: It seems that the aquatic extracts of Wormwood and Hyssop that have unique compounds, especially antioxidants and phallonoids, improve seizures caused by PTZ and significantly reduce the adverse effects of epilepsy. It is suggested that future studies test the effect of this compound on the definitive treatment of epilepsy.

Keywords: Pentylenetetrazole, Rats, Seizures

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