

ANTI EPILEPTIC ACTIVITY OF ARGEMONE MEXICANA LEAVES AND FLOWERS ETHANOLIC EXTRACTS

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Background

Seizures are symptoms of brain dysfunction. Epilepsy is a condition in which a person has a tendency to have recurring seizures. Acute symptomatic seizures are generalized tonic-clonic seizures that occur in the absence of epilepsy in response to a wide range of provoking insults, such as hyponatremia, other electrolyte disorders, fever in infants and young children. *Argemone mexicana* was reported in ayurvedic medicine to be used for the treatment of epileptic seizures. The aim of this study is to evaluate the anti epileptic activity of *A .mexicana* leaves and flowers extracts.

Methodology

The extract of *A. Mexicana* was prepared by continuous extraction method using Soxhlet apparatus. The seizure was induced to rats by injected of Pentylenetetrazole (80 mg/kg). The rats were divided into the negative control group (normal saline); positive control group (received standard anticonvulsant {Sodium valproate, 1mg/kg}), test group which received the extracts (500-2000 mg/kg). After 30 minutes of induction, the convulsion parameters in the animals were observed through signs of neurological deficits, particularly hind limb tonic convulsions.

Findings

All rats in the group injected with sodium valproate were protected against seizure. In normal saline group protection was 0 %, and all rats suffered convulsions and died in a very short time. *A. mexicana* leaves extract did not affect the seizure. In the rats treated with *A. Mexicana* flower extract, the onset of seizure was significantly delayed, the duration, intensity of seizure and mortality was highly decreased along with 25% seizure protection. Phytochemical screen of *A. Mexicana* leaves and flowers revealed the presence of alkaloids, flavonoids and terpenoids, which are known for their anti-epileptic activity. The alkaloids in flowers are true - alkaloids comply with antiepileptic isoquinoline and berberine reported in *A. Mexicana*. Whereas, alkaloids in leaves are pseudo- or proto- alkaloids. In addition, rutin and trans-phytol having anticonvulsant effects were reported in leaves and flowers, the compound occurence explain the activity of flowers, in leaves the concentration of these compounds might be low or might be due to presence of antagonist compounds.

Conclusion

The study concluded the antiepileptic activity of *A. mexicana* flower justifying it's traditional use.

Biography

Samar Saadeldin Abdelmotalab Omer is a pharmacist, graduated from the University of Medical Sciences and Technology in 2015, having a graduation project in the department of Pharmacognosy and Medicinal Plants. Two years experience at the National medicines and Poisons Board – Sudan.

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