

Anticonvulsant potential of ethanol extracts and their solvent partitioned fractions from *Flemingia strobilifera* root

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ABSTRACT

Background *Flemingia strobilifera* (FS) R.Br. (Fabaceae) is an important medicinal plant. In wealth of India it has been reported that roots of FS are used by santals in epilepsy, hysteria, insomnia, and to relieve pain. In Burma also the roots of *F. strobilifera* are used to treat epilepsy. **Objective** To investigate anticonvulsant potential of 95% ethanol extract and four subsequent fractions (petroleum ether, chloroform, ethyl acetate, and aqueous fractions of the roots of FS against pentylenetetrazole (PTZ) and maximal electroshock (MES) induced convulsions. **Material and Methods** All the fractions and crude ethanol extract were administered (i.e., 200, 400, 600 mg/kg, p.o.) for 7 days and at the end of the treatment convulsions were induced experimentally using pentylenetetrazole and Maximal electroshock Test. Diazepam and phenytoin (4 mg/kg, i.p. and 20 mg/kg, i.p., respectively) were used as reference anticonvulsant drugs against experimentally induced convulsions. The latency of tonic convulsions and the numbers of animals protected from tonic convulsions were noted. **Results** High doses (200 and 300 mg/kg, p.o.) of ethyl acetate fraction and 95% ethanol crude extract (400 and 600 mg/kg, p.o.) significantly reduced the duration of seizure induced by maximal electroshock (MES). The same dose also protected from pentylenetetrazole-induced tonic seizures and significantly delayed the onset of tonic seizures. However, pet, ether, chloroform, and aqueous fraction at any of the doses used (i.e., 100, 200, 300 mg/kg, p.o.) did not show any significant effect on PTZ and MES induced convulsions. The treatment with crude ethanolic extract and ethyl acetate fraction caused signs of central nervous system depressant action in the locomotor activity test, confirmed by the potentiation of sodium pentobarbital sleeping time. Both did not cause disturbance in motor coordination assessed by rotarod test. **Conclusion** The data suggest that crude ethanol extract and ethyl acetate fraction of roots of *Flemingia strobilifera* have a central nervous system depressant action and behave as a potential anticonvulsant. It may produce its anticonvulsant effect via non-specific mechanism since it reduced the duration of seizures produced by maximal electroshock as well as delayed the latency of seizures produced by pentylenetetrazole.

KEYWORDS

Antiepileptic . *Flemingia strobilifera* . maximal electroshock . pentylenetetrazole . seizures

REFERENCES

