

Anticonvulsant effect of *Berberis integerrima* L. root extracts in mice

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Background and Aims: *Berberis integerrima* is a member of Berberidaceae family. Berberin is one of the main constituent of this plant with neuroprotective effect in central nervous system diseases. In this study, the anticonvulsant activity of *B. integerrima* methanolic extract, hydromethanolic and chloroform fractions was assessed.

Methods: The anticonvulsant effect of *B. integerrima* was investigated using both pentylenetetrazole (PTZ) and maximal electroshock (MES) induced seizure models.

Results: The LD₅₀ value of the methanolic extract was 302.676 mg/kg. In the PTZ test, methanolic extract (140 and 200 mg/Kg, i.p., P<0.01), hydromethanolic (200 mg/Kg, P<0.01) and chloroform fractions (200 mg/Kg, P<0.01) increased the onset time of HLTE (hind limb tonic extensions). The protective effect against mortality was 25% in methanolic extract and 33.3% in hydromethanolic fraction at the doses of 200 mg/Kg and chloroform fraction at the dose of 140 mg/Kg. In the MES test, this plant did not display significant effect in reduction of HTLE duration. According to phytochemical screening, methanolic extract contained alkaloids and tannins.

Conclusions: The present study indicated that *B. integerrima* has anticonvulsant activity in PTZ-induced seizures, in mice. It is concluded that *B. integerrima* may be useful in petit mal epilepsy.

Keywords: *Berberis integerrima*; Anticonvulsant; Seizure; Pentylenetetrazole; Maximal electroshock seizure