ACTIVITY OF METHANOL ROOT BARK EXTRACT OF SECURINEGA VIROSA IN MURINE MODELS OF PARKINSON’S DISEASE

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ABSTRACT

Parkinson’s disease, a common neurodegenerative disorder associated with dysfunctional dopaminergic neurotransmission in the striatum affects many people and currently has no cure. The roots, leaves and stem bark of Securinega virosa are used in ethnomedicine for the management of epilepsy, insomnia, psychosis, algesia, arthritis and diabetes. This study examined the anti-parkinsonian potential of the methanolic root extract of Securinega virosa in murine models of Parkinson’s disease. Phytochemical screening was carried out and median lethal dose (LD50) was estimated. Anti-cataleptic activity was evaluated using the haloperidol and reserpine induced models of catalepsy in mice at doses of 50 and 100 mg/kg. The preliminary phytochemical screening of the extract revealed the presence of alkaloids, saponins, tannins, flavonoids, steroids and cardiac glycosides in the methanolic root extract of Securinega virosa and the oral LD50 was estimated to be greater than 5,000 mg/kg. The extract at a dose of 100 mg/kg significantly (p<0.05) reduced the mean cataleptic score at two hours after the onset of haloperidol-induced catalepsy. Similarly, 100 mg/kg of Securinega virosa extract significantly (p<0.01) reduced mean cataleptic score at two hours and up to four hours after the onset of reserpine-induced catalepsy compared to control animals, similar to the effect produced by benzhexol, the reference drug. However, the methanol root bark extract of Securinega virosa at a dose of 50 mg/kg did not produce a significant reduction in mean cataleptic scores in both models employed in this study. The results obtained suggest that the methanolic root extract of Securinega virosa possesses anti-cataleptic activity.

Key words: Securinega virosa; catalepsy; haloperidol; reserpine, Parkinson’s disease.

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