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# Anticonvulsant effects of *Senna spectabilis* on seizures induced by chemicals and maximal electroshock

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## Abstract

*Senna spectabilis* (Fabaceae) is one of the medicinal plants used in Cameroon by traditional healers to treat epilepsy, constipation, insomnia, anxiety. The present study aimed to investigate the anticonvulsant effects of *Senna spectabilis* decoction induced by maximal electroshock (MES), pentylenetetrazole (PTZ), pilocarpine (PC) and its possible action mechanisms in animal models using flumazenil (FLU), methyl- $\beta$ -carboline-3-carboxylate (BC) and bicuculline (BIC). *Senna spectabilis* decoction (106.5 and 213.0 mg/kg) antagonized completely tonic-clonic hind limbs of mice induced by MES. The lowest plant dose (42.6 mg/kg) provided 100% of protection against seizures induced by PTZ (70 mg/kg). Administration of different doses of the plant decoction antagonized seizures induced by PC up to 75%, causing a dose dependent protection and reduced significantly the mortality rate induced by this convulsant. Both FLU and BC antagonize strongly the anticonvulsant effects of this plant and are unable to reverse totally diazepam or the plant decoction effects on inhibiting seizures. The animals did not present any sign of acute toxicity even at higher doses of the plant decoction. In conclusion, *Senna spectabilis* possesses an anticonvulsant activity. We showed that its decoction protects significantly mice against seizures induced by chemicals and MES, delays the onset time and reduces mortality rate in seizures-induced. Moreover, the plant decoction could interact with GABA<sub>A</sub> complex receptor probably on the GABA and benzodiazepines sites.

**Key words:** Epilepsy, Decoction, *Senna spectabilis*, Tonic-clonic seizures, Pilocarpine.

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