

Abstract

Some of the most commonly used analgesic drugs in animals are of questionable efficacy or present adverse side effects among the various species of reptiles. Tricyclic antidepressants have been demonstrated to have antinociceptive effects in several animal models of pain and could be a good alternative for use in reptiles. The aim of the study was to investigate the antinociceptive effects of nortriptyline and desipramine hydrochloride in Speke's hinge-back tortoise. A total of 24 animals weighing 600–1000 g were used for nociceptive tests, i.e., formalin, capsaicin, and hot plate tests. Drugs were administered intracoelomically 30 min before starting the tests. The time spent in nocifensive behavior and the associated observable effects during the tests were recorded. Only the highest dose of 40 mg/kg of nortriptyline hydrochloride caused statistically significant decrease in nocifensive behavior in both the formalin and the capsaicin test. Desipramine hydrochloride at doses of 20 and 40 mg/kg caused statistically significant decrease in nocifensive behavior in the formalin test. Also, desipramine hydrochloride at doses of 15, 20, and 60 mg/kg caused statistically significant decrease in nocifensive behavior in the capsaicin test. None of the doses used for both drugs had any statistically significant effect on nocifensive behavior in the hot plate test. The results show that nortriptyline and desipramine hydrochloride have significant antinociceptive effects in the chemical but not thermal inflammatory pain-related behavior in the Speke's hinge-back tortoise. The most common associated side effect following administration of the higher doses of either of the drugs is excessive salivation.