Effects of opioids in the formalin test in the Speke's hinged tortoise (Kinixy's spekii).

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Abstract

Little is known about analgesia in lower vertebrates such as the Speke's hinged tortoise (Kinixy's spekii), yet of late they are increasingly being adopted as pets. The effects of morphine (5, 7.5, 10 and 20 mg/kg), pethidine (10, 20, and 50 mg/kg) and naloxone (5 mg/kg) on nociception induced by the formalin test (12.5%, 100 microL) were studied in the Speke's hinged tortoise. Formalin induced a monophasic limb retraction behavioural response and its duration was recorded. The behaviour lasted for 16.4 +/- 0.8 min. Morphine (7.5, 10 and 20 mg/kg) and pethidine (20 and 50 mg/kg) induced significant decrease in the duration of limb retraction in the formalin test. The anti-nociceptive effects were naloxone (5 mg/kg) reversible. The data suggest that the formalin test is a good test for studying nociception and anti-nociception in tortoises and that the opioidergic system plays a role in the control of nociception in these animals.

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