Effect of hexane extract from soursop (Annona muricata L.) leaves on mice ear edema induced by xylene

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Annona muricata L. (Annonaceae), known as soursop throughout the world, is a widespread tree in Brazil. The leaves have ethnomedicinal use for several diseases. The aim of this work was to investigate the activity of hexane extract from soursop leaves on topical inflammation induced by xylene. Swiss female mice were divided into 5 groups (n=10). Four groups received daily oral doses of 200 µL of normal saline (Control) and hexane extract from soursop leaves 10, 100 and 1000 mg/kg (HE10, HE100 and HE1000, respectively) during seven days. One group received dexamethasone (2.5 mg/kg) orally for 3 days. One hour after last treatment, each animal received 50 µL of xylene on the inner and outer surfaces of the right ear lobe. Ear thickness was measured before and 1 h after induction of inflammation using a digital micrometer (±0.001mm). Edema was expressed as the difference between the basal ear thickness and the ear thickness after 1 h of xylene application. Microbiological analysis was performed to verify a possible contamination of hexane extract. There was no growth for bacteria and fungi. The animals treated with 10, 100 and 1000 mg/kg of hexane extract attenuated the xylene-induced ear edema. However, only the lowest concentration (HE10) exerted a similar anti-inflammatory effect compared to dexamethasone in the used experimental model. Our data suggest that hexane extract from soursop leaves could be a useful tool for potential application as an anti-inflammatory agent.

Keys: anti-inflammatory effect, Annona muricata L., hexane extract
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