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Effect of emu oil on auricular inflammation induced with croton oil in mice.

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OBJECTIVE: To determine the acute anti-inflammatory effects of topically ~ emu oil.

ANIMALS: 96 male CD-1 mice assigned randomly to 4 groups, each comprising 24 mice.

PROCEDURE: To induce auricular inflammation, 50 µl of a solution comprising 10 µl of croton oil dissolved in 1 ml of acetone applied to the inner surface of the left auricle (pinna). One hour later, 3 or 5 µl of emu oil (low- and high-dose groups, respectively) or 5 µl of porcine oil (control) was applied to the left pinna. Control mice remained untreated. Six mice per group were euthanized 3, 6, 12, and 24 hours after induction of inflammation. Specimens of auricular tissue (ear plugs) were obtained, using a 6-mm biopsy punch. Magnitude of swelling was calculated as the weight difference between (inflamed) and right (noninflamed) ear plugs; degree of edema was determined as the difference between wet and dry weights of the left ear plug.

RESULTS: Magnitude of swelling was significantly reduced at 6 and 12 hours in mice treated with emu or porcine oil, compared with controls. The greatest reduction in swelling was detected in the high-dose emu group at 6 hours. Compared with controls, degree of edema was significantly reduced at 6 hours only in the high-dose group, whereas by 12 hours, all groups treated with oils had significantly less edema than controls. At 24 hours, magnitude of swelling and degree of edema did not differ among groups. **CONCLUSION:** Topically applied emu oil significantly reduced severity of acute auricular inflammation induced by croton oil in mice.

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