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Margaritaria discoidea (Euphorbiaceae) stem bark extract attenuates allergy and Freund's adjuvant-induced arthritis in rodents

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ABSTRACT

Background Various parts of Margaritaria discoidea find use in traditional medicine in the treatment of pain and oedema. This study evaluated the anti-allergic, anti-inflammatory and anti-arthritic effects of a 70% (v/v) aqueous ethanol extract of the stem bark of Margaritaria discoidea, MDE in rodents. Materials and Methods Systemic anaphylaxis was induced by the injection of compound 48/80 into mice and their survival rate was monitored to evaluate the anti-allergic action of the extract. The effect of MDE assessed on the maximal and total oedema responses in the mouse carrageenan-induced paw oedema was used to evaluate the anti-inflammatory action of the extract while the Freund's adjuvant-induced arthritis model was employed to study the anti-arthritic effects of MDE. Results MDE dose-dependently increased the time for compound 48/80-induced mortality in mice. MDE suppressed the mean maximal swelling and the total paw swellings induced over 6 h in the carrageenan-induced paw oedema when administered either prophylactically or therapeutically. MDE caused a reduction in serum levels of TNFa and IL-6 and significantly suppressed Freund's adjuvant-induced arthritis. Conclusion Margaritaria discoidea suppresses allergy and exhibits anti-inflammatory activity in mice. In addition it attenuates Freund's adjuvant-induced arthritis through a reduction in serum levels of TNFa and IL-6 in rats.

KEYWORDS

Allergy . anaphylaxis . anti-inflammatory . arthritis . Margaritaria discoidea

REFERENCES