

Jatropha curcas leaves exert anti-arthritic activity on adjuvant-induced arthritis in rats

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Abstract	<p>BACKGROUNDJatropha curcas leaves have been proven to be anti-inflammatory and antioxidant. In this study we examined the antiarthritic effects of ethanolic extract of J. curcas leaves using adjuvant induced arthritis (AIA) in rats.METHODSMale Wistar rats were divided into 6 groups (n=8), consisting of normal group (0.9% NaCl), control group (complete Freund's adjuvant/CFA 1 mg/ml), sodium diclofenac group at a dose of 6.75 mg/kg (p.o), ethanolic extract of J. curcas groups at doses of 150 mg/kg (p.o), 300 mg/kg (p.o) and 600 mg/kg (p.o). Each group was induced by 0.2 ml CFA on day 1 and a booster injection on day 5. Extracts of J. curcas were administered on days 14-28. Arthritic scores were determined, then analyzed using Kruskal Wallis followed by Mann Whitney tests. Mobility scores were analyzed using one way analysis of variance, followed by least significant difference multiple comparison test. Arthritic joint histopathology was observed on day 29.RESULTSThe results showed that the ethanolic extract of J. curcas leaves at doses of 150 mg/kg, 300 mg/kg and 600 mg/kg significantly reduced arthritis scores (p<0.05) compared to control group (CFA). The J. curcas leaf extract at doses of 150 and 300 mg/kg BW decreased mobility scores. Histopathology studies showed that the J. curcas extract reduced edema and cartilage destruction in arthritic joints.CONCLUSIONThe J. curcas leaf extract had anti-arthritic effects by reducing arthritis scores and mobility scores. The extract should be further examined as a potential candidate for anti-arthritic therapies.</p>
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