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Phytochemical, antioxidant and anti-inflammatory potential of *Feretia apodanthera* root bark extracts

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Introduction: Inflammation process is very discomfoting, characterized by pain, swelling and loss of function of inflamed cells. Chronic inflammation has been linked with cancer diabetes, arthritis, and coronary heart diseases such as atherosclerosis. It is also believed that 15-20 percent of deaths from cancers are attributed to inflammation. Since chronic inflammation is as a result of recurrent acute inflammation, it is necessary to prevent reoccurrence of acute inflammation. Available therapies are non-specific and have elicited adverse drug effect in patients using the drugs, especially long term users. Recently, *Feretia apodanthera* extracts have also been shown to have high antioxidant activity similar to quercetin and relatively high flavonoid content. The presence of these metabolites may be responsible for the therapeutic effect exhibited by this plant. Investigations with extract of *Feretia apodanthera* in rats also showed a decreased activity of nuclear factor kappa β and nitric oxide which is been implicated in inflammation.

Aim: Thus this work is designed to evaluate in-vitro antioxidant capacity and anti-inflammatory effect of different extracts of *Feretia apodanthera* against right hind paw oedema of albino rats.

Methodology & Theoretical Orientation: Phytochemical constituents and antioxidant activity was assayed using DPPH. Anti-inflammatory studies were carried out with ethanol and hexane extracts using carrageenan induced paw oedema in albino rats.

Findings: Phytochemical screening of extracts revealed the presence of unsaturated steroids, triterpenes, cardiac glycosides, tannins, saponin and alkaloids. Vitamin C had a median inhibitory concentration (IC₅₀) of 0.0383 mg/ml which was lower than IC₅₀ of all the extracts. Of all the extracts, ethanol extract had the lowest IC₅₀ (0.0443 mg/ml) which is comparable to vitamin C. Anti-inflammatory studies showed that all the extracts had a significant ($p < 0.05$) inflammation inhibition potential at 400 mg/kg body weight at all hours except at the fifth hour, where the n-hexane extract was significantly ($p < 0.05$) lower than all the extracts.

Conclusion & Significance: These results suggest that *Feretia apodanthera* possess significant antioxidant and anti-inflammatory potential properties among other therapeutic values justifying its use in folklore medicine. Recommendations are made for isolation and characterization of the active compounds responsible for the antioxidant and anti-inflammatory potential

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