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Analgesic and anti-inflammatory effects of *Cassia siamea* Lam. stem bark extracts.

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Abstract

AIM OF THE STUDY: The present study was carried out to investigate analgesic and anti-inflammatory activities of *Cassia siamea* Lam stem bark extracts. We have also determined the cytotoxicity of each extract.

MATERIALS AND METHODS: *C. siamea*, a widespread medicinal plant traditionally used in sub-Saharan Africa, was collected in Congo Brazzaville. Stem bark was extracted with petroleum ether (CSE1), chloroform (CSE2), ethanol (CSE3) and water (CSE4). Analgesic, anti-inflammatory and antipyretic activities of these extracts were assessed in rats with hot plate test, paw pressure and carrageenan induced paw oedema. Cytotoxicity was assessed against KB and Vero cells.

RESULTS: At the doses used (100, 200, and 400mg/kg) ethanol and water extracts showed significant and dose-dependent analgesic and anti-inflammatory effects. None of the extracts had cytotoxic activity on KB and Vero cell lines and the most active extracts (CSE3 and CSE4) had no acute toxicity.

CONCLUSIONS: The study highlighted the analgesic and anti-inflammatory of *C. siamea* stem bark. Four major families of compounds present in the plant may explain these activities: triterpenes (lupeol, oleanolic acid, ursolic acid, friedelin, betulin), flavonoids (apigenin, kaempferol, luteolin), anthraquinones (emodin), phytosterols (stigmasterol, beta-sitosterol).

Keywords:

Cassia siamea; *Fabaceae*; Stem bark extracts; Analgesic; Anti-inflammatory; Antipyretic