Anti-inflammatory activity of hexanic extract and fractions from \textit{Pterodon polygalaeeflorus}

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\textbf{Introduction}: The genus \textit{Pterodon} comprises different species widely distributed over the central region of Brazil. Its fruits are commercially available on medicinal flora markets, being widely used by their antipyretic, anti-inflammatory and analgesic pharmacological properties. The aim of this work was to fractionate the hexanic extract of \textit{Pterodon polygalaeeflorus} Benth. fruits (ExPpg), and monitorate it biologically by an acute inflammation model.

\textbf{Methods}: The extract fractionation was done by chromatography on silica gel column and the eluates were analyzed by gas chromatography coupled to mass spectrometry. We used the air pouch model of study, where a cavity was developed in SW mice through sterile air injection (s.c.) on the back and the inflammation was induced by carrageenan inoculation at this cavity during four hours. An hour before carrageenan injection the animals were orally treated with the vehicle, indomethacin or ExHPpg/Fr2Ppg. The air pouch exudate was collected for counts of total and differential leukocyte (fast Panotic) and protein determination (biuret reaction). The skin of the air pouch was analyzed through macroscopic and histologic images. Neutrophil migration was performed by transwell \textit{in vitro} assay.

\textbf{Results}: The majority compounds founded were caryophyllene oxide and trans-farnesyl acetate with 95\% of similarity with database NIST. In relation to the carrageenan control group, ExHPpg and Fr2Ppg, at 0.02 mg/kg dose, showed inhibitions of 70.6\%, 62.8\%, on the total leukocyte counts of the exudate and reductions of 76.8\%, 76.9\%, on the protein concentration, respectively. With the 0.2 mg/kg dose, reductions were observed only for total leukocyte counts, after treatment with ExHPpg, (62.9\%). Macroscopic and histological analysis of air pouch tissues showed important reductions of vasodilation and inflammatory infiltrate by treatment with ExHPpg and Fr2Ppg. In the transwell assay the Fr2Ppg exhibited inhibition of 31.4\% of neutrophil migration.

\textbf{Discussion/Conclusion}: Concluding, the biomonitorated ExHPpg fractionation confirms the anti-inflammatory potential of \textit{Pterodon polygalaeeflorus} specie.

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