Effects of *Pterodon polygalaeflorus* ethanolic extract on imuno-inflammatory cells

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**Introduction:** Alcoholic extracts from fruits of *Pterodon* genus are commonly used in folk medicine as anti-rheumatic, anti-inflammatory and analgesic preparations. The main use is related to the popular anti-arthritic effect.

**Experimental Part:** Ethanolic extract of *P. polygalaeflorus* fruits (EEPpg) was prepared by maceration with absolute ethanol for 15 days. RAW 264.7 cells were incubated for 24 h with DMEM 10%FCS, 37°C, 5% CO₂, in the presence or not of EEPpg (0.001 µg/mL to 80 µg/mL) and murine splenocytes were incubated for 48 h in the same conditions, with or without concanavalin A (Con A) or lipopolysaccharide (LPS), in the present or absence of EEPpg (0.1 µg/mL to 20 µg/mL). After 24 h and 48 h, respectively, tetrazolium salt (MTT) was added to the plate and them incubated at 37°C for 2 h. Afterwards, SDS 10% was added to the plate. The cell growth/cytotoxicity of macrophages and splenocytes were expressed as percentage of mitochondrial reducing activity (MRA) compared to control. RAW 264.7 cells were also incubated for 24 h with LPS in the presence or absence of EEPpg (0.001 µg/mL to 80 µg/mL) and after this time, the nitrite production was measured in the supernatants by Griess reaction.

**Results:** EEPpg showed cytotoxic activity (p <0.001, n = 9) on RAW 264.7 cells at concentrations of 40 µg/mL (50.7 ± 9.9) and 80 µg/mL (9.8 ± 13.6). EEPpg inhibited nitrite production by RAW 264.7 cells since 0.1 µg/mL (p <0.05, n = 5), with IC₅₀ of 21.71 µg/mL. EEPpg showed anti-proliferative effect on splenocytes activated by Con A (p <0.001, n = 3) at concentration of 0.1 µg/mL, reaching 32.7% ± 15.4% MRA at concentration of 20 µg/mL, or by treatment with LPS (p <0.001, n = 3) at 5, 10 and 20 µg/mL, with maximum reduction of the MRA of 2.3% ± 2.6% at 20 µg/mL.

**Discussion/Conclusion:** EEPpg has significant effects on inhibition of NO production by macrophages and proliferation of activated lymphocytes, important immune-inflammatory cells in the pathogenesis of rheumatoid arthritis.

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