

Toxicological studies of the aqueous extract from *Achyrocline satureioides* (Lam.) DC (Marcela)

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Abstract

Achyrocline satureioides (Lam.) DC (Marcela) is known to possess a broad spectrum of pharmacological, medicinal and therapeutic properties. Previous studies have demonstrated various protective abilities of the marcela extracts against various pathological conditions. However, no extensive safety studies have been conducted on these extracts to date. In this paper, we evaluated the acute toxicity (dose levels of 30–300 mg/kg) of an aqueous extract of marcela, administered intraperitoneally and orally in mice and rats. The acute oral maximum tolerable dose in repeated administration during 4 h (1, 3 until 5 g/kg) was also studied in rats. The extract had low acute toxicity when administered intraperitoneally and no toxicity upon oral administration. The LD₅₀ of aqueous extracts of marcela was found to be greater than 5 g/kg when administered once via gastric intubation to rats. Weight gain, toxicity signs, enzymatic studies (transaminases and phosphatases) and histological evaluation of several organs indicated that the extract was devoid of acute toxicity. These acute studies demonstrated that an aqueous extract of marcela obtained after a 2% infusion is safe and did not cause any detrimental effects in vivo under the conditions investigated in this study.

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