Toxicity and diuretic activity of an ethanol extract of Equisetum ramosissimum D.

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Introduction: The stems of the plant Equisetum ramosissimum D. (Equisetaceae) commonly known in Spain as “cola de caballo” are extensively used in traditional medicine, in the Canary Islands, for the treatment of renal lithiasis, healing fractures and osteoporosis, as well as for the diuretic properties.

Material and Methods: Acute toxicity (24h) and physiological or behavioural changes were performed following a 7 day daily treatment with an ethanol extract of Equisetum ramosissimum D.. The procedure reported by Colot was used to evaluate and to calculate the diuretic activity.

Results: Ethanol extract administered in Swiss albino male mice showed a moderate level of toxicity (438 mg/kg) and central nervous system depressive properties at doses of 50, 100 and 200 mg/kg. The extract when administered orally and intraperitoneally at doses of 50, 100 and 200 mg/kg considerably increased urinary excretion in rats respect to control group. The maximum dieresis time (MDT) decreased with increased doses of ethanol extract of Equisetum ramosissimum D. A slight increase in ion excretion was also observed. Other parameters such as specific gravity, nitrite, pH, glucose, ketone bodies, urobilinogen, bilirubin and blood were also studied.

Conclusion: Ethanol extract of Equisetum ramosissimum D. administered by intraperitoneal route showed a moderate level of toxicity in mice where it also presented central nervous system depressive properties in a dose dependent manner. Ethanol extract of Equisetum ramosissimum D. displayed an interesting diuretic activity in male Sprague-Dale rats when administered orally and intraperitoneally.