PHARMACOGNOSY RESEARCH
DOI: 10.4103/0974-8490.99073 | pp. 138-147 | October-December 2012
Published by Phcog.Net

Active spermatogenesis induced by a reiterated administration of Globularia alypum L. aqueous leaf extract

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ABSTRACT

Background Globularia alypum L. (Globulariaceae) is a shrub growing in the Mediterranean basin and known to be used as a popular medicine for its several pharmacological properties against rheumatism, gout, typhoid, intermittent fever, and diabetes.
Materials and Methods The acute and chronic toxicities of a G. alypum L. aqueous leaf extract were studied in animals. Acute toxicity was performed in male and female mice whereas chronic toxicity was realized in male and female rats that orally received the drug at the doses of 300 and 600 mg/kg/24 h for 30 days. Results Acute toxicity showed that the extract, administered by the oral route, does not induce any mortality even for a dose of 10,000 mg/kg. Administered by the intra-peritoneal route to female and male mice, the LD50 of the extract was found to be of 2750 and 2550 mg/kg, respectively. A chronic toxicity study showed that, compared to the control groups that only received the vehicle (water), the drugs affects weight growth (effects more pronounced in female than in male rats), some organs weight after autopsy, hematological and biochemical parameters and histology of some principal organs (lungs: histological grades I to II pulmonary hypertension (PHT), respiratory distress syndrome (ARDS), and lymphoid hyperplasia; esophagus: thinning down of esophageal wall, atrophic muscular coat). The most important finding of the study was the recorded active spermatogenesis induced by the reiterated administrations of the drug that was confirmed by reducing the administered dose and the period of treatment (100 mg/kg/24 h for 15 days). Conclusion It is suggested that the G. alypum L. leaf extract contains active substances with androgenic properties that could be used in human therapy.

KEYWORDS

Active spermatogenesis . acute and chronic toxicity . androgenic properties . Globularia alypum L

REFERENCES