

Phytochemical screening and acute oral toxicity study of Java tea leaf extracts

ABSTRACT

The term Java tea refers to the decoction of *Orthosiphon stamineus* (OS) Benth (Lamiaceae) leaves, which are widely consumed by the people in Europe and South East Asian countries. The OS leaves are known for their use in traditional medicinal systems as a prophylactic and curative agent for urinary stone, diabetes, and hypertension and also as a diuretic agent. The present study was aimed at evaluating its possible toxicity. Herein, the major phytochemical constituents of microwave dried OS leaf, which is the common drying process for tea sachets in the market, were also identified. The acute oral toxicity test of aqueous, 50% aqueous ethanolic, and ethanolic extracts of OS was performed at a dose of 5000 mg/Kg body weight of Sprague-Dawley rats. During the 14-day study, the animals were observed for any mortality, behavioral, motor-neuronal abnormalities, body weight, and feed-water consumption pattern. The hematological and serum biochemical parameters to assess the kidney and liver functions were carried out, along with the histological analysis of these organs. It was found that all microwave dried OS leaf extracts did not cause any toxic effects or mortality at the administered dose. No abnormality was noticed in all selected parameters in rats of both sexes as compared with their respective control groups. Thus, the possible oral lethal dose for microwave dried Java tea leaves is more than 5000 mg/Kg body weight.