

Sub-acute oral administration of Cymbopogon citratus stem infusion and its effects on blood biochemical parameters, body and organ weights in rats.

ABSTRACT

A study was conducted to determine the effects of lemon grass stem infusion (Cymbopogon citratus) in female Sprague-Dawley rats. The objective of the study was to develop a basic guideline for safe use of lemon grass stem infusion. A total of 18 female rats were fed with 13 and 130 mg/kg body weight (BW) of the infusion for 28 days. Control rats only received distilled water. Blood samples were collected to assess renal and liver functions. Repeated administration of lemon grass stem infusion to rats did not produce any significant change in their blood lipid profiles [cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL) and triglycerides], liver function parameters [aspartate transaminase (AST), alanine transaminase (ALT) and gamma-glutamyl transferase (GGT)], renal function parameters (creatinine, urea and uric acid), total protein and glucose concentrations. The intake of the infusion also did not show hepatotoxic and nephrotoxic signs on rats. The weight of rats receiving the dose at 130 mg/kg BW (which is equivalent to 10 times of normal human consumption), was almost similar to the control group. The rats survived the treatment without showing any ill-effect. Based on this study, lemon grass stem infusion was not toxic even at 10 times higher than normal human consumption.

Keyword: Cymbopogon citratus; Sub-acute toxicity; Biochemical parameters; Organ weight.