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The plant *Ruellia tuberosa* (S.Puruk Amukkara) (Family Acenthaceae) has emetic and antifertility action. It is used in the treatment of chronic bronchitis, febrifuge and weakness of the semen. *Ruellia tuberosa* is distributed in India, Sri Lanka, and Central America. This plant is used as a substitute for *Withania somnifera* in Ayurvedic medicine in Sri Lanka. The present study was carried out to investigate the toxicity of *Ruellia tuberosa*.

The plants were collected from Veyangoda area in Gampaha district. Dried *R. tuberosa* roots were finely powdered, extracted with water, evaporated to dryness and the crude water extract was administered to male rats according to their body weights. Control group was fed distilled water.

The investigations were divided into short term (acute tests) and long term (chronic) tests. To determine the lethal dose (LD₅₀) a set of 3 (20, 200, 2000 mg/kg) concentrated drugs were prepared and given to 6 animals.

In acute toxicity studies treatment was carried out once a day for 7 consecutive days. The drug was administered orally between 9-10 am. (0.396g/200g rat) and group size was 14 (Treatment group 7, Control 7). The rats were observed daily for 3h after the treatment. Food consumption, water intake, rectal temperature and weight of faeces were measured daily. Exploratory behaviour was evaluated after the treatment using the rat hole-board technique. Each animal was given 7.5 min trial period, number of head dips, time/dip, rears, locomotary activity and number of faecal boluses were recorded. Analgesic activity was measured before and after treatment of the drug using hotplate and tail flick analgesia meter.

No death or acute poisons symptoms were observed, except a slight drowsiness. A significant increase in analgesic activity was observed both in long term (Treatment group (TG) = 2.7 sec, control = 2.1 sec) and short term (TG = 2.7 sec, control = 1.8 sec) studies. In haematological studies, only RBC counts were significantly increased. In acute toxicity Time/Lead dip decreased (TG = 2.1 sec control = 2.9 sec) and number of rearings increased (TG = 17.4 sec CG = 7.4 sec). Heart rate (TG = 334 sec control = 337 sec) blood pressure (TG = 123 control = 141), and renal function test SGPT (TG = 25 CG = 35) had decreased significantly in chronic toxicity. LD₅₀ value is above 200 mg/kg as the dose of 2000mg/kg could not be evaluated due to insolubility. The decrease in analgesic activity may be due to the activity of steroidal compounds on neuromuscular junction. Therefore the water extract can act as a pain killer. *Withania* improves the marrow activity without side effects. *Ruellia tuberosa* too appears to possess this activity as the RBC counts increased. Heart rate and blood pressures have significantly decreased like in *Withania somnifera*. Therefore the substitution of *Ruellia* for *Withania* may be due to these activities.