

Diuretic activity of high grown Sri Lankan dust grade No. 1 tea (*Camellia sinensis* L.) in rats

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The aim of this study was to evaluate the diuretic potential of Sri Lankan high grown dust grade No 1 black tea which is consumed widely by the tea drinkers worldwide. Different doses of hot black tea brew (BTB) of dust grade tea equivalent to 1.5, 3.0, 9.0 or 24 cups and green tea brew (GTB) (both Chinese and Japanese type) equivalent to 3 (180 $\mu\text{g}/\text{ml}$) cups were made and orally administered to previously starved (24 h) but subsequently hydrated (with 15 ml of isotonic saline) rats and their urinary output was monitored cumulatively at hourly intervals for 6h. The reference drug used was frusimide (13 mg/kg). The results showed that dust grade BTB induced significant ($p < 0.05$), moderate and dose-dependent diuresis (starting from 3 cups). This diuretic activity had a fairly rapid onset (within 2 h) and relatively short duration of action (1 h). BTB also significantly ($p < 0.05$) increased the overall urinary frequency. Further, the diuretic activity of dust grade BTB was less potent to GTBs (Chinese type by 34% and Japanese type by 47%) and frusimide (by 45%). Decaffeination of dust tea almost completely abolished the diuresis whereas the decaffeinated green tea inhibited diuresis partially. The diuresis of the dust tea brew was solely due to increased (by 55%) urinary Na^+ excretion (with no urinary K^+ loss). Further, the chronic daily administration of the dust tea brew did not develop tolerance or induce toxicity (general, renal and hepatic). It is concluded that Sri Lankan high grown dust grade No 1 black tea is a natural, safe, orally active moderate diuretic with rapid onset and relatively short duration of action.

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