

Diuretic activity of Sri Lankan black tea (*Camellia sinensis* L.) in rats

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ABSTRACT

The aim of this study was to evaluate the diuretic potential of Sri Lankan black tea (*Camellia sinensis* L.). This was assessed in rats using high grown Dust grade No: 1 tea, which is consumed widely by the tea drinkers worldwide. Different doses of hot black tea brew (BTB) (84, 167, 501 or 1336 mg/ml respectively equivalent to 1.5, 3, 9 and 24 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 frusemide (13 mg/kg). The results showed that BTB induced significant ($P < 0.05$), mild to moderate and dose-dependent diuresis (starting from 167 mg/ml). This diuretic activity had a fairly rapid onset (within 2 h) and relatively short duration of action (3 h). BTB also significantly ($P < 0.05$) increased the overall urinary frequency. Further, the diuretic activity of BTB was less potent to frusemide (by 45%). Decaffeination of black tea almost completely abolished the diuresis. The diuresis of the BTB was solely due to increased (by 55 %) urinary Na^+ excretion (with no urinary K^+ loss). Further, the chronic daily administration of the BTB did not develop tolerance or induce toxicity (general, renal and hepatic). It is concluded that BTB made from Sri Lankan high grown Dust grade No :1 tea has safe, mild to moderate diuretic activity with rapid onset and relatively short duration of action. Further, this study supports the claim made by Sri Lankan indigenous physicians that it is a diuretic.

KEYWORDS

Camellia sinensis . black tea . diuresis . Sri Lankan tea . dust grade tea

REFERENCES