S.L.J. Tea Sci. 72(2), 54-60, 2007, Printed in Sri Lanka

Antipyretic activity of Sri Lankan black tea (*Camellia sinensis*)

W D Ratnasooriya, T S P Fernando and C D W Y Senevirathna
(Department of Zoology, University of Colombo, Colombo 03, Sri Lanka.)

ABSTRACT

This study examined the antipyretic activity of Sri Lankan black tea (*Camellia sinensis* L.) in yeast-induced rat pyrexia model using black tea brew (BTB) of high grown Dust grade No: 1 tea. Different doses of BTB (167 mg/ml, equivalent to 3 cups; 501 mg/ml, equivalent to 9 cups; and 1336 mg/ml, equivalent to 24 cups), water (control) or paracetomol (200 mg/kg, reference drug) were orally administered to yeast -induced pyretic rats (N = 6/group) and their rectal temperature monitored at hourly intervals for 6 h. The results show that all doses of BTB and paracetomol significantly ($P < 0.05$) suppressed the pyrexia-induced by yeast (low dose upto 2 h, mid dose upto 5 h, high dose upto 4 h and paracetomol upto 4 h). In addition, the mid dose of BTB significantly ($P < 0.05$) suppressed the intestinal secretion in enteropooling assay of mice suggesting an impairment of prostaglandin synthesis. It is concluded that Sri Lankan black tea possesses antipyretic activity of moderately long duration in rats and it could play a similar role in humans.

Key words: *Camellia sinensis*; black tea; pyrexia; antipyretic

INTRODUCTION

Tea which is manufactured from the topmost immature leaves and the bud of *Camellia sinensis* (L) O. Kuntze (Family Theaceae) plant is one of the most popular beverages consumed worldwide. Depending on the manufacturing process there are three main types of teas: black (fully aerated or fermented) green (unaerated or unfermented) and oolong (partially aerated or semifermented) (Modder and Amarakoon, 2002). It is estimated that 80% of world produced tea is consumed as black tea (Anonymous, 2004) predominantly in North America, Great Britain and some Asian countries (Kunkel, 2003).

Tea and health have always been inextricably linked. Several laboratory studies have demonstrated that tea, especially the green tea, exhibit distinct and diverse pharmacological properties: antioxidative; anti-inflammatory; anticarcinogenic; antimutagenic; antiangiogenic; antiarterioselerotic; antiobesity; antidiabetic; antiageing; hypocholesterolaeimic; antibacterial; antiviral; impairment of digestive enzyme activity; alleviation of liver ailments and neurological conditions or reduction of tooth decay and other gum ailments (Modder and Amarakoon, 2002; Koo and Cho, 2004). Furthermore, findings from several epidemiological studies suggest that regular consumption of moderate to high quantity of tea lower the risk of heart diseases, stroke and cancers (Modder and Amarakoon, 2002; Koo and Cho, 2004).