

DO-006

EFFECT OF TEA CONSTITUENTS ON PARACETAMOL PHARMACOKINETICS IN HEALTHY VOLUNTEERS

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ABSTRACT

Paracetamol is a safe over the counter drug used for pain but converted to a toxic electrophile at high doses. Foods can interfere with drug metabolism.. Black tea is widely consumed beverage. It has many pharmacologically active ingredients which can interfere with paracetamol metabolism by altering the activity of the drug metabolizing enzymes To investigate the effects on pharmacokinetics of paracetamol following concomitant administration of paracetamol with black tea infusion. Eight healthy volunteers (22-25 years) were participated in a randomized two-way crossover design. Subjects received a single dose of paracetamol (2x500mg) with 100 mL, of water (control) or tea infusion. Blood was collected at different time intervals over 6.0 hours. Samples were analysed by HPLC for paracetamol. Data were compared using the student *t*-test. Maximum serum paracetamol concentration (C_{max}), time to reach C_{max}, AUC, elimination half-life, and the rate of elimination of the test group were 20.69 µg/mL, 0.84 hours, 61.45 µg/mL.h, 3.9 hours and 0.20 h⁻¹ respectively. No significant difference (p<0.05) was observed with the control group in pharmacokinetic parameters or paracetamol excreted. Present study indicates that there is no significant effect on pharmacokinetics of paracetamol, after having a single cup of black tea.

Acknowledgment

This study was carried under the IRQUE Research grants, Faculty of Medicine, University of Colombo, Sri Lanka.

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