

## A-10 : EFFECT OF TEA ON CAFFEINE METABOLISM

*S S S B D P Soysa, E H Karunanayake*

*Dept. of Biochem., Fac. of Medicine, University of Colombo.*

The present study was undertaken to investigate the effect of tea on the metabolism of caffeine in the rat. Radioactive caffeine (1-methyl  $C^{14}$ ) was administered (100mg/kg) orally to rats either as pure caffeine or added to tea infusion. Total tissue and serum radioactivity was compared with tissue concentrations of caffeine, measured by high performance liquid chromatography. Peak level of radioactivity or peak concentration of caffeine was observed during first two hours following the administration of (1-methyl- $C^{14}$ ) caffeine. When caffeine was administered with tea, peak levels were observed only upto one hour. The ratio of concentration of caffeine to tissue radioactivity indicated that caffeine contributed more than 95% of the total radioactivity in the kidney, testes and the muscle at first hour, whether administered as pure caffeine or with tea. The ratio of, tissue radioactivity (% per g of wet weight) to serum radioactivity (% per ml of serum) remained less than one at all times. This indicated that there was no specific accumulation of tissue radioactivity. Total tissue radioactivity in each tissue was higher when caffeine was administered with tea than caffeine alone. These observations suggested that although there was no specific accumulation, the absorption of caffeine was enhanced when caffeine was administered with tea.