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LAKHANA THUMVIJIT : CAFFEINE CLEARANCE IN HEPATOCELLULAR CARCINOMA PATIENTS PRE AND POST TREATMENT WITH TRANSCATHETER OILY CHEMOEMBOLIZATION THESIS ADVISOR : ASSOC. PROF. SUPEECHA WITTAYALERTPANYA, THESIS COADVISOR : DUANGPORN THONG-NGAM, M.D., 96 pp. ISBN 974-334-804-2

The purpose of this study was to evaluate caffeine clearance, a quantitative liver function assessment, and in-patients with hepatocellular carcinoma (HCC). Liver function test both conventional test and caffeine clearance was evaluated in twelve patients' pre and post treatment with Transcatheter Oily Chemoembolization (TOCE). Each patient took a 3.5 mg/kg single oral dose of caffeine solution at pre TOCE treatment and 1 day and 5 weeks post treatment. Blood samples were subsequently collected at 0.5, 1.5, 3, 5 10 and 24 hours after caffeine administration. Clearance, Vd and half-life were determined by the pattern of pharmacokinetic study. The results showed that caffeine clearances at pre TOCE treatment and 1 day and 5 weeks post treatment were 0.79 ± 0.02 , 0.51 ± 0.096 , $0.43 \pm 0.07 \mu\text{g/ml}$, respectively. It was found that caffeine clearance decreased ($p=0.06$) and decreased significantly ($p=0.03$) at 1 day and 5 weeks after TOCE treatment, respectively. No significant changes ($P>0.05$) in most of all conventional liver function tests were observed on 5 weeks post treatment. **CONCLUSION:** It can be concluded that posts TOCE treatment patients have impaired hepatic metabolic activity demonstrated by measuring caffeine clearance. Liver function assessment in HCC patients with caffeine clearance seems to be more sensitive and specific than conventional liver function test.

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