

# LIVER FUNCTIONS OF DIABETES MELLITUS TYPE 2 PATIENTS TREATED WITH AYURVEDA MEDICINE: WITH SPECIAL REFERENCE TO *CHANDRAPRABHA VATI*

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Management of diabetic patients demands a multiple therapeutic approach and alternative treatment procedures are being actively investigated. Occurrence of liver disease and raised liver enzymes is common in diabetic patients and an increase in serum enzymes indicates hepatic injury. Although *Ayurveda* medicine plays an important role in treatment of diabetes there is a belief that it may cause hepatic injury.

Present study was conducted, as a first step, to evaluate the effect of short term (14 days) administration of *Chandraprabha vati* (250mg two times a day), in newly diagnosed type 2 diabetic patients and to determine its effect on liver function since very few studies have addressed this issue in Sri Lanka though Sri Lankan population is much prone to take *Ayurveda* medicine. Ninety newly diagnosed diabetic patients between 35 and 65 year of age, with laboratory confirmation and clinical examination were recruited with their informed consent. The male: female ratio was 1:1. The patients were divided into three groups as test group (n=30, treated with *Chandraprabha vati* [CPV]) positive control (n=30, treated with DM 13 decoction, a proven medicament) and normal control (n=30), and oral glucose tolerance and liver function tests were done before and after two weeks of treatment using standard procedures. Ethical clearance for the study was obtained from the Health care research foundation, Sri Lanka.

The positive control group and test group showed no significant difference in the serum concentration of key hepatic enzymes Aspartate amino transferase (AST), Alanine amino transferase (ALT), Gamma glutamyl transferase (GGT) and Alkaline phosphatase (AlkP) before the treatment in comparison to the normal control group. After 14 days of treatment also there was no significant difference in the serum AST, ALT, GGT and AlkP among the 3 groups. Oral glucose tolerance test (OGGT) performed before the commencement of treatment revealed that the test group and positive test group exhibited abnormal glucose tolerance as opposed to the normal control group. After 14 days of treatment patients treated with DM 13 (positive control group) showed improved glucose tolerance than those treated with CPV (test group) and the normal control group maintained the normal response to OGGT. It could be concluded that 14 days of treatment with CPV, which is traditionally used in the management of diabetes mellitus, does not induce hepatic damage and not improve glycaemic control. This investigation will form the basis for further studies to determine the effect of long term administration of *Chandraprabha vati* on hepatic and renal functions.