

## LONG TERM TOXICITY STUDY OF MOMORDICA CHARANTIA

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The oral hypoglycaemic activity of fruits of Momordica charantia has been previously reported from our laboratory. The present study was undertaken to evaluate the toxicological effects (if any) of long term administration of M. charantia, using male Sprague Dawley rats (aged 5 months, average body weight 225 g) as the animal model.

An aqueous extract of fruits of M. charantia was prepared as described previously<sup>1</sup>, and this was administered (1 ml/100 g body weight/day) orally, to the experimental group (n=10), under light ether anaesthesia for 30 days. An equivalent dose of distilled water was administered to the control group (n=10), under identical conditions. At the end of the experiment, animals were sacrificed and serum concentrations of key hepatic enzymes estimated. The livers and kidneys were subjected to histopathological examination. Same investigations were performed on a group (n=25) of normal apparently healthy male rats of same age and of comparable body weights, in order to establish basal values.

Serum aspartate aminotransferase (SGOT) concentrations ( $p < 0.01$ ) and alanine aminotransferase (SGPT) concentrations ( $P < 0.001$ ) were significantly higher in the treatment group than in the control or in the normal group. There was no significant difference in these enzyme concentrations between the control and normal groups. Alkaline phosphate ( $p < 0.01$ ) and gamma GT ( $p < 0.05$ ) concentrations were significantly higher in the treatment and in the control groups than in the normal group, though there was no significant difference between the treatment and the control groups. Significant hepatocellular or renal lesions were not apparent in any of the groups studied.

although there was no histological evidence of hepatocellular damage, the elevated aspartate aminotransferase and alanine transferase concentrations are suggestive of possible hepatocellular damage at the molecular level, following long term administration of M. charantia.

## References:

1. Karunanayake, E.H., Welihinda, J., Sirimanne, S.R. and Sinnadorai, G. (1984). Oral hypoglycaemic activity of some medicinal plants of Sri Lanka. Journal of Ethnopharmacology, 11; 223 -231.