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October 29-30, 2018 | San Francisco, USA

Momordica charantia mitigates hepatic injury following adjuvant treatment with antiretroviral drugs in diabetic and non-diabetic animal models

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Health of mankind and calls for urgent attention. *Momordica charantia* (*M. charantia*) is a significant threat to the health of mankind and calls for urgent attention. *Momordica charantia* (*M. charantia*) is a medicinal plant, used in Ayurveda for treating various diseases, including diabetes mellitus. This study investigated the possible protective effect of *M. charantia* against HAART and streptozotocin STZ induced hepatoxicity. 78 adult male Sprague Dawley rats were divided into two groups (non-diabetic and diabetic) and treated according to protocols. Diabetes was induced with streptozotocin (STZ) by intraperitoneal injection (45 mg/kg body weight). The animals were euthanized on the tenth week with livers removed for examination and blood obtained via cardiac puncture and centrifuged to collect the serums. Blood glucose levels (BGL) were consistently and significantly raised in all groups not receiving the adjuvant *M. charantia* (p<0.05). Treatment with *M. charantia* reverses the increase in BGL to near normal. Markers of liver injury assayed showed a significant increase (p<0.05) in AST, ALP and ALT levels in diabetic groups not receiving *M. charantia*. Adjuvant HAART and *M. charantia* caused significant declines in the liver enzymes (p<0.05). Serum GGT was not markedly altered. Treatment with *M. charantia* significantly restored liver enzymes elevations to near normal comparable to control. Histopathological observations ranged from severe hepatocellular distortions, necrosis and massive fibrosis following treatment of HAART in diabetic and non-diabetic groups. *M. charantia* did not show any sign of hepatotoxicity as judged from the histological and biochemical observations.

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