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RESEARCH PAPER

In vitro antiproliferative and hepatoprotective activity studies of *Momordica cymbalaria*

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ABSTRACT

Natural products are well known to exhibit the antiproliferative and hepatoprotective activities. The present study aimed at assessing the potency of hydroalcoholic extracts of fruits, aerial parts and roots of *Momordica cymbalaria*. Antiproiferative activity of the extracts assessed using *in vitro* cell lines such as MCF-7, HepG2, HeLa, PC3, A549 and Vero cell lines. The ability of extracts to exert toxic insult on cancer cells has been the basis of anticancer activity. The extracts were evaluated for hepatoprotective activity by employing primary rat hepatocytes.In the case of HeLa cells, MCR was found to be most potentially toxic with average CTC_{50} of 67 µg/ml. MCR possesses more toxicity to PC3 cells than the others. Potential toxicity towards Vero cell lines was exhibited by MCR with average CTC_{50} value of 63 µg/ml. The results clearly demonstrate that the extract MCR exert potential anticancer activity. *In vitro* hepatoprotective activity of the plant extracts was studied by employing primary rat hepatocytes. Our results indicate that the drug Silymarin was found to exhibit 96 per cent protection against Paracetamol induced toxicity in Hep G2 cells at the tested concentration of 250 µg/ml. Among the parts of *Momordica cymbalaria*, MCA and MCR found to have slightly lesser activity compared to Sylimarin. In paracetamol induced toxicity of primary rat hepatocytes, the drug Silymarin was found to exhibit 85.28 per cent protection against Paracetamol induced toxicity in Primary rat hepatocytes at the tested concentration of 250 µg/ml. MCA was found to exhibit comparatively similar protective power than silymarin.

Key Words : *Momordica cymbalaria*, Antiproliferative, Hepatoprotective, Hydroalcoholic extract

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