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RESEARCH PAPER

In vitro anticancer and hepatoprotective activity studies of *Garcinia xanthochymus*

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ABSTRACT

Natural products are very well known to exhibit anticancer activities. The present study aimed at assessing the potency of various extracts of *Garcinia xanthochymus* against cancer using *in vitro* cell lines. MCF 7, HepG2, HeLa, PC3, A549 and Vero cell lines were employed for the assessment. The ability of extracts to exert toxic insult on cancer cells has been the basis of anticancer activity. GxF was fond to be very potentially toxic (80 mg/ml) to HEP G2 cell lines among all the tested extracts. Also, it was found to be the most toxic compared to GxA and GxF whose average CTC_{50} was found to be 180 and 118 mg/ml, respectively. Among all the tested extracts, GxF was found to be potentially toxic to the MCF 7 cell lines whose CTC_{50} was found to be73 mg/ml. GxA possesses the CTC_{50} of 810 mg/ml. GxR was found to be toxic with average CTC_{50} of303 mg/ml. This was followed by GxF and GxA with average CTC_{50} values of 303 and 456 mg/ml. *In vitro* hepatoprotective activity of the plant extracts was studied by employing 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 mg/ml. It was found that GxF and GxR were found to have comparatively similar protective power like silymarin. These extract exhibited 83.63 per cent and 79.58 per cent protection against paracetamol induced toxicity in primary rat hepatocytes at the concentration of 200 mg/ml, respectively. GxA did not exhibit considerable activity with 55.61 per cent protection.

Key Words : *Garcinia xanthochymus*, *In vitro*, Anticancer, Hepatoprotective, Cell lines

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