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HEPATOPROTECTIVE AND CYTOTOXIC POTENTIAL OF ETHANOLIC LEAF EXTRACT OF *Polygonum chinense* L.

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ABSTRACT

Medicinal plants and their products play a vital role for the development of new drugs. The study is an initiative to establish the medicinal value of *Polygonum chinense* L., a member of Polygonaceae family. The possible hepatoprotective effects of ethanolic leaf extract of *Polygonum chinense* (ELEPC) on paracetamol (acetaminophen) induced acute liver injury was studied in Swiss albino mice. The experimental doses of 250 mg/kg body weight per oral and 500 mg/kg body weight per oral were selected based on acute oral toxicity test. The ELEPC could significantly lower the paracetamol induced elevated level of mice serum alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatise (ALP) and total bilirubin levels in dose dependent manner. Statistical significance of data was evaluated by one way Analysis of Variance (ANOVA) followed by Dunnett test at $p<0.05$ and $p<0.01$. The histopathologic profile of treated animals depicted hepatoprotective effect of ELEPC. The cytotoxic potential of ELEPC was assessed based on the inhibition of hatching of the cyst (hatchability assay) and brine shrimp lethality assay. The ELEPC was found to be effective against brine shrimp with LC_{50} of 180µg/ml and 140µg/ml in hatchability and lethality assay respectively. ELEPC provide protection against paracetamol induced liver injury and had established its cytotoxic potential which may be targeted for development of new therapeutics.

KEYWORDS: *Polygonum chinense*, Paracetamol, Acetaminophen, Hepatoprotective, Cytotoxic, Brine Shrimp