

## **Protective Effect of Saponin Extract from the Root of *Garcinia kola* (Bitter Kola) against Paracetamol-Induced Hepatotoxicity in Albino Rats**

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**Abstract :** Liver disorders are one of the major problems of the world. Despite its frequent occurrence, high morbidity, and high mortality, its medical management is currently inadequate. This study was designed to evaluate the Hepatoprotective effect of saponin extract of the root of *Garcinia kola* on the integrity of the liver of paracetamol induced Wistar albino rats. Twenty-five male adult Wistar albino rats were divided into five (5) groups. Group I, was the Control group that received distilled water only, group II was the negative control that received 2 g/kg of paracetamol on the 13th day, and group III, IV, and V were pre-treated with 100, 200 and 400 mg/kg of the saponin extract before inducing the liver damage on the 13th day with 2 g/kg of paracetamol. Twenty-four hours after administration, the rats were sacrificed, and blood samples were collected. The serum Alanine Transaminase (ALT), Aspartate Transaminase (AST), Alkaline Phosphatase (ALP) activities, Bilirubin and Conjugated Bilirubin, Glucose and Protein concentrations were evaluated. The liver was fixed immediately in Formalin and was processed and stained with Haematoxylin and Eosin (H&E). Administration of saponin extract from the root of *Garcinia kola* significantly decreased paracetamol induced elevated enzymes in the test group. Also, histological observations showed that saponin extract of the root of *Garcinia kola* exhibited a significant liver protection against the toxicant as evident by the cells trying to return to normal. Saponin extract from the root of *Garcinia kola* indicated a protection of the structural integrity of the hepatocytic cell membrane and regeneration of the damaged liver.

**Keywords :** hepatoprotective, liver damage, *Garcinia kola*, saponin, paracetamol

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