Acetaminophen Phenylbutyrate Conjugate Is an Alternate to Acetaminophen

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Acetaminophen (N-acetyl-para-aminophenol, paracetamol, APAP) toxicity is common primarily because the medication is so readily available and there is a perception that it is very safe. More than 60 million Americans consume acetaminophen on a weekly basis. Acetaminophen toxicity is the second most common cause of liver transplantation worldwide and the most common in the US. It is responsible for 56,000 emergency department visits, 2600 hospitalizations, and 500 deaths per year in the United States. The current research project aimed to prove major reduction or complete elimination of APAP toxicity in a hepatocellular in-vitro experiment model. This compound was prepared by a simple one step procedure, coupling APAP hydroxyl with Phenyl butyric acid in order to yield an ester conjugate. The in-vitro data clearly suggest that high concentrations of the conjugate drug result in reduced cytotoxicity for prolonged incubation for a period of a week, when compared to Acetaminophen. Acetaminophen Phenyl Butyrate (APAP-PB) is a safer drug to use for more than a week for the patients who suffer from pain. In comparison to APAP, APAP-PB results in a reduced hepatotoxic effect on longer period use for a week or more. The study results clearly indicate that Acetaminophen Phenyl butyrate conjugate is an alternate to Acetaminophen.

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