

ABSTRACT

The effect of a commercial probiotic compound in reducing acetaminophen-induced liver damage in Sprague-Dawley rats was investigated. Forty male Sprague-Dawley rats were divided equally into four groups following a completely randomized design. Treatment 1 (T1) group served as negative control, receiving normal saline only. The group under Treatment 3 (T3) served as probiotic-treated control (0.58 mL each). Acetaminophen (800 mg/kg) was administered to the Treatment 2 (T2) and Treatment 4 (T4) groups by oral gavage, with T2 and T4 additionally receiving normal saline and probiotics, respectively. The hepatoprotective effect of the probiotics was determined by measurement of hepatic enzymes, liver weight and size, and histopathology. Results show that acetaminophen significantly elevated serum level of aspartate aminotransferase (AST) but not alanine aminotransferase (ALT) and alkaline phosphatase (ALP) and also caused necrosis of the liver. Treatment of rats with probiotics 7 days before and 7 days after administration of acetaminophen minimized hepatocyte necrosis by decreasing disintegration of nuclear membrane and aggregation of chromatin. The present study points to the potential hepatoprotective effect of the probiotic compound against acetaminophen toxicity.