Effects of *Urtica dioica* on liver function following acetaminophen induced hepatotoxicity in mice

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ABSTRACT

Acetaminophen is among the most widely used analgesic and antipyretic agents. Its acceptance is attributed to its efficacy and a high margin of safety. However, overdose may produce severe hepatic necrosis in humans and animals. Studies have demonstrated that leaf extracts of *Urtica dioica* promotes regeneration of the liver cells following damage induced by compounds such as carbon tetrachloride, Aflatoxin B1. This study will investigate the effects of *Urtica dioica* on the activity of liver enzymes following acetaminophen overdose in mice. The study will involve 90 mice divided into two treatment arms. The control arm will have 15 mice. The remaining 75 mice for the treatment arm will be divided into five treatment groups each with 15 mice: group A for *Urtica dioica*; group B for acetaminophen 500mg/kg; group C for acetaminophen 250mg/kg; group D for *Urtica dioica* and acetaminophen 500mg/kg and group E for *Urtica dioica* and acetaminophen 250mg/kg. The animals will be sacrificed on the 4th day and blood collected by cardiac puncture for analysis of amino transferase, aspartate amino transferase, alkaline phosphatase, gamma (γ) glutamyl transferase, lactate dehydrogenase, prothrombin time, albumin and bilirubin levels. Liver samples will also be collected for histological examination. The results of this study will be analyzed in SPSS v 20.0. The effectiveness of using *Urtica dioica* will be compared to the control mice. Reduced enzyme activity of the liver enzymes with the use of *Urtica dioica* will provide better multifunctional approaches in the management of acetaminophen poisoning. This will also allow further research on multifunctional approaches on management of acetaminophen poisoning.