

Possible Management of Acute Liver Failure Caused Experimentally by Thioacetamide Through a Wide Range of Nano Natural Anti-Inflammatory And Antioxidants Compounds [Herbal Approach]

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Abstract : Objective: Acute liver failure (ALF) is a clinical condition with an unclear history of pathophysiology, making it a challenging task for scientists to reverse the disease in its initial phase and to help the liver re-function customary: this study aimed to estimate the hepatoprotective effects of *Punica granatum* L peel and *Pistacia atlantica* leaves as a multi-rich antioxidants ingredients either in their normal and/or in their nanoforms against thioacetamide induced acute liver failure in a rodent model. Method: Male Wistar rats (n=60) were divided into six equal groups, the first group employed as a control; The second group administered a dose of 350 mg /Kg/ b.w of thioacetamide (TAA)-IP, from the third to the sixth group received TAA + [2mls / 100 g b.w/d] of aqueous extracts of *Punica granatum* L and *Pistacia atlantica* either in their normal and/or Nano forms consecutively for (14 days) Results: Recorded significant elevation in liver enzymes, lipid profiles, LPO (p= 0.05) and NO with a marked significant decrease in GSH and SOD accompanied by an elevation in inflammatory cytokine (IL6, TNF- α , and AFP) in addition to a noticeable increase in HSP70 level & degradation in DNA respectively in TAA challenged group. However significant and subsequent amelioration of most of the impaired markers was observed with ip nano treatment of both extracts. Conclusion: The current results highlighted the high performance of both plant nano extracts and their hepatoprotective impact and their possible therapeutic role in the amelioration of TAA induced acute liver failure in experimental animals.

Keywords : acute liver failure HPLC, IL6, nano extracts, thioacetamide, TNF- α

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