

Biochemical and histopathological effects of administration various levels of Pomposia (*Syzygium cumini*) fruit juice as natural antioxidant on rat health

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Abstract

The aim of the current investigation was to evaluate the effects of administration various levels (400, 800 and 1,200 ppm) of pomposia extracts as natural antioxidant in comparison with BHT as synthetic antioxidant on some biochemical activities and histopathological examination of rats. Some of biochemical tests i.e. Alkaline phosphatase, transaminases]Aspartate transferase (AST) and alanine transferase (ALT) [bilirubin, urea and uric acid were conducted. Histopathological examinations were carried out on the liver and kidney tissue of rats administrated tested substances. The biochemical results indicated that the administration of polyphenolic compounds present in pomposia juice did not cause any significant ($p \geq 0.05$) changes in the biochemical parameters whereas the administration of BHT at 200 ppm caused significant ($p \leq 0.05$) increase in the activities of enzymes relevant to the functions of liver and kidney. Microscopically examinations of liver and kidney of rat administered various levels of pomposia juice had the same character as that of control rats (this means that the polyphenolic compounds present in pomposia juice did not cause any adverse affect in liver and kidney), in contrast the administration of 200 ppm of BHT caused marked pathological changes in liver and kidney of rats. The results of the current investigation suggest using pomposia juice as safe food grade substance.

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