

HISTOLOGICAL AND BIOCHEMICAL EFFECTS OF AQUEOUS EXTRACT OF OCIMUM GRATISSIMUM ON THE LIVER AND KIDNEY OF ADULT WISTAR RATS

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ABSTRACT

Aim: Ocimum gratissimum is used commonly in traditional medicine to treat certain diseases. This study accessed the histological and biochemical effects of aqueous extract of Ocimum gratissimum leaves on the kidney and liver of adult Wistar rats.

Methods: Twenty four adult Wistar rats were assigned into four groups (A, B, C and D) of 6 rats each. Group A was used as control, and B, C, and D were the treatment groups. Each treatment group received 300, 400 and 500mg/kg respectively of aqueous extract of Ocimum gratissimum orally for twenty one days. The animals were sacrificed on the 21st day by cervical dislocation. Blood was collected by cardiac puncture for biochemical analysis. The liver and the kidney were collected, fixed in 10% formal saline and processed for light microscopy.

Results: Rat weight showed no significant difference between control and treatment group. Biochemical analysis showed very mild decrease in serum ALP, ALT and AST levels when compared with the control. There was no significant difference in serum creatinine and urea levels when compared with the control. The histological study of the liver revealed peripotal inflammatory cell infiltrates and central vein vascular congestion. Histological study of the kidney showed mild to severe interstitial infiltration by inflammatory cells and increased vascular congestion.

Conclusion: Ocimum gratissimum may be useful in culinary dishes and also in the treatment of certain ailments but systemic toxicity is also possible and this is dose dependent. Caution should therefore be exercised in the therapeutic use of the plant.

Keywords: Ocimum gratissimum, Liver, Kidney, Histology, Biochemical