

Biochemical and histologic changes in rats after prolonged administration of the crude aqueous extract of the leaves of *Vitex grandifolia*

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ABSTRACT

Background In recent times, many herbal remedies are used to treat variety of ailments. the leaves of *Vitex grandifolia* is claimed to be effective in the treatment of diabetes mellitus and as a diuretic in the treatment of high blood pressure. However, there are no scientific reports on the therapeutic benefits or toxicity of this plant. This study therefore investigated the effect of prolonged administration of the aqueous extract of the leaves of this plant in Sprague-Dawley rats. **Methods** the plant leaves (no. FHI 107055) were dried at 40 °C, powdered and extracted at room temperature in water (pH 5.72) by percolation. Extract was dried in vacuo to give a yield of 27.32 %w/v. The extract, 0.5-2 g/kg b. wt. was administered by gastric probe to rats for 14 days. The liver and kidney functions, blood chemistry, histopathologic alterations of vital organs and extract effect on rats b. wt. were investigated. **Results** *V. grandifolia* caused significant increase in the serum electrolytes, creatinine, and liver function enzyme dose dependently compared with the control ($P \leq 0.001$). The extract had no effect on the heart; however, the architecture of the liver, kidney, and lungs were significantly altered in the treated groups compared with the control. The treated rats had significantly reduced body weight compared with the control ($P \leq 0.001$). Major clinical signs observed in the treated groups were polydipsia, polyuria, puffiness of hair, and calmness, which were consistent with increase in dose of the extract. **Conclusion** It could be clearly concluded that prolonged administration of the aqueous leaf extract of *V. grandifolia* at the dose used in this study tends to be toxic to the rats. Its use in folkloric medicine should be with utmost care.

KEYWORDS

Histopathology . liver function test . edema . portal infiltration . toxicity . *Vitex grandifolia*

REFERENCES