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## EFFECT OF ALOE VERA ON COWPER'S GLAND OF RATTUS NORVEGICUS

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### ABSTRACT

*Aloe vera* plant belongs to Liliaceae family, and is perennial, xerophytic, shrubby, succulent plant. In the current investigation effect of *Aloe vera* on body weight, organ weight, biochemistry and histology of Cowper's gland in male wistar rats was studied. In this experiment 12 mature adult male rats were divided into 2 groups. Group I was control whereas group II was experimental. The rats from experimental group were daily administered 25 mg/kg body weight (BW) *Aloe vera* orally for 45 days, while those from group I received saline solution. After completion of the treatment rats were anaesthetized by ether, Cowper's gland was excised, weighed and processed for microbiological and biochemical estimations. The paraffin sections were stained with hematoxylin and eosin for histopathological observation. The results revealed significant drop in body weight, organ weight, total proteins and sialic acid concentration of experimental rat. Histopathological changes included reduction in the size of alveoli and decline in the secretory activity of acini, resulting into empty tubules. The secretory epithelium showed reduction in height, uneven arrangement and aggregation of nuclei. It is concluded that consumption of *Aloe vera* has damaging effect on Cowper's gland which may affect male fertility.

**Key words:** *Aloe vera*, Cowper's gland, alveoli, histology, fertility

### Introduction

*Aloe vera* is a plant belonging to family Liliaceae (Surjushe *et al.*, 2008). It possess various pharmacologic qualities, like the ability to promote the healing of burns, wounds, and frostbite injuries, as well as hypoglycemic, anti-inflammatory, antifungal and gastroprotective properties. However, *Aloe vera* gel has been reported to be harmful to certain organs (Choi and Chung 2003; Can *et al.*, 2004; Rabe *et al.*, 2005). The objective of present investigation was to find out the impact of *Aloe vera* on biochemistry and histopathology of Cowper's gland.

### Materials and methods

Mature, healthy male rats (*Rattus norvegicus*) weighing from 182 – 210 g were

maintained in clean, well-ventilated polypropylene cage (12" x 10" x 8") under 12-hour dark and 12-hour light cycles. Fresh leaves of *Aloe vera* were washed with clean water and cut into small pieces. The gel was isolated and homogenized for the preparation of crude extract. The rats were divided into two groups, each with 6 individuals. Group I represented as control group, while Group II were orally treated with *Aloe vera* extract @ 25 mg/kg body weight (BW) daily for 45 days. Control group received saline water. The Institutional Animal Ethics Committee of RTM Nagpur University, Nagpur (Registration number 478/01/a CPCSEA) had approved the experimental protocol. Body weight of each animal was measured. After completion of treatment, the rats were again weighed, and thereafter sacrificed using ether. The animals were dissected and Cowper's glands were