



Impact of Sesame Leaves Diet on the Renal Histomorphometric and Biochemical Studies of Adult Male Sprague Dawley Rats

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ABSTRACT

Objective: Sesame diet, which is rich in phytoestrogenic lignans, is one of the key staple foods in West African especially Togo and Nigeria (South West and Middle-belt). However, concern has been expressed over the last few decades about the potential effect of estrogenic endocrine disruptors (EED) on human health, especially kidney diseases and their treatment. Moreover, recent studies have shown that certain types of estrogen can lower the risk of heart attacks and stroke in people with previous history of cardiovascular

disease. However, due to paucity of knowledge on the renal impact of consuming sesame leaves regularly we therefore aim to investigate the protective role played by sesame leaves consumption on the biochemical parameters and histomorphometric studies of adult male Sprague Dawley.

Methodology and results: Thirty adult male rats were divided into three groups of 10 rats each. The treated groups received oral garvage of 28.0mg/kg bwt/day and 14.0 mg/kg bwt/day of aqueous extract of sesame leaves respectively for 6 weeks. The control group received equal volume of 0.9% normal saline per day. Biochemical and histomorphometric studies were carried out on H & E stained kidney tissues processed using standard procedure. Data were analysed using SPSS software and $P < 0.05$ was considered statistically significant.

There was significant ($P < 0.05$) evidence of dose dependent increased in both the raw body weight of all the animals treated and the relative kidney weight per 100g body weights (wt/100g) in the treated groups when compared to the control group. No evidence of chronic toxicity was seen in the glomeruli and tubules except for very mild vascular congestion in the treated groups, which was probably due to observed low albumin level. However, there were also mild significant decreased in both serum proteins and albumin of the treated groups when compared to the control group animals in a dose dependent manner. Although, serum globulin concomitantly increased in the treated groups when compared to control, which implied that sesame played a protective role in the body immune system.

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Conclusion and application of findings Consumption of Sesame leaves is safe and improves the kidney profile especially in certain disease condition.

Key words: Phytoestrogens, *Sesame radiatum*, Sprague dawley rats, kidney.