



**EFFECT OF *LEPTADENIA HASTATA* HEXANE LEAF EXTRACTS AGAINST
HEMATOLOGICAL, BIOCHEMICAL AND INDOMETHACIN INDUCED ULCER IN
RATS**

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ABSTRACT

Objectives: This study was targeted at valuing a claim by traditional herbal practitioner that the leaves of *Leptadenia hastata* possess ulcer healing property by assessing the effect of *Leptadenia hastata* on ulcer induced rats. **Material and method:** The effects of an hexane leaf extracts of *Leptadenia hastata* were studied in 40 white albino rats over a period of 21 days, to ascertain the claim of *Leptadenia hastata* has ulcerogenic properties, the rats were divided into eight groups those in group one served as control group, group two negative control (Indomethacin) ulcer induced with no treatment, while group three positive control (Omeprazole) and groups four to eight are dosed groups ranged from; 100mg/kg 200mg/kg, 300mg/kg, 400mg/kg and 500mg/kg extracts respectively, Microscopic examination was carried out and scored for the presence of lesion. The length and breadth of the lesion of the stomach was measured for ulcer index. Stomach and Blood sample were collected for Histological, hematological and biochemical analysis. The specimen of the stomach was taken for histopathological studies. **Results:** The study showed that the extracts of *Leptadenia hastata* caused increased in the weight of the rats compared to the negative control and the levels of packed cell volume, hemoglobin concentration, red blood cell, white blood cell, mean corpuscular volume and mean corpuscular hemoglobin. The changes in the biochemical parameter were all within the range of the control. Histologically, stomach degeneration was characterized by lesion and decrease number of lining cell of the epithelium. **Conclusion:** The study indicate that hexane leaves crude extracts of *Leptadenia hastata* possess ulcer healing activity.

KEYWORDS: *Leptadenia hastata*, ulcer, rats, histopathology, haematology, serum biochemistry.

INTRODUCTION

In the recent past many researchers of the world have been focusing on the provision of the empirical proof and relevance of use of tropical plants in traditional medicine with their curative potentials.^[6] Many of this medicinal plant are used as spices, foods and medicinal purposes.^[11] The medicinal value of these plants lies in some chemical substance that produce a definite physiological action on the human body. The most phytochemical constituents are alkaloids, tannins, phenolic and flavonoids compounds.^[10]

In Nigeria and other parts of the world *Leptadenia hastata* plants of the family Asclepiadaceae is widely used in the management of diverse diseases. The Decoction of the leaves of *Leptadenia hastata* with the bark of *Erythrina senegalensis* is either taken orally or used as a medicinal bath to treat onchocercosis in Mali.^[37] In Chad, the roots are used to treat scabies.^[38] This plant is commonly used in Hausa-speaking communities in Nigeria as a spice and used in sauces.^[15]

Also in Nigeria, local healers use the plant for hypertension, catarrh and skin diseases.^[39] In Burkina Faso, locally it is used for sexual potency (chewing leaves), trypanosomiasis (decoction of leaves), skin diseases and wound-healing (application of latex).^[40] In Senegal, the leaves have been reportedly used for lactation and as a purgative by Kerharo and Adam and Arbonnier.^[41,42] Senegalese healers also use the *L. hastata* for prostate and rheumatism complaints.^[43]

Ulcer is a chronic medical disorder, it is defined as a breach in the lining (mucosa) of the digestive tract produced by the digestion of the mucosa by pepsin and acid basically as the disturbance of the normal equilibrium caused by either enhanced aggression or diminished mucosal resistance, the peptic areas of the human body under normal circumstances are the stomach and the duodenum and the common medical disorder with the area is peptic ulcer disease.^[12] Ulcer are commonly caused by *Helicobacter pylori* a bacteria that can cause a stomach infection and inflammation,