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## Immunohistochemical effects of aqueous extract of *Xylopi* *aethi* *opica* leaf on the stomach in streptozotocin-induced diabetic rats

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Gastrointestinal pathology in diabetic patients has become a source of concern in recent times. The aim of this study was to investigate the immunohistochemical effects of aqueous leaf extract of *Xylopi* *aethi* *opica* on the stomach in streptozotocin-induced diabetic Rats. This study was conducted using thirty adult wistar rats. The animals were divided randomly into three groups (n=10). Group A was the control animals (administered with an equivalent volume of citrate buffer), group B was diabetic animals induced by a single intraperitoneal injection of streptozotocin dissolved in citrate buffer (65mg/kg) and group C was diabetic animals treated with 200mg/kg body weight of aqueous leaf extract of *Xylopi* *aethi* *opica* for twenty eight days. At the expiration of the study, all the animals in each of the groups were sacrificed and the stomach excised and fixed in 10% formol saline and processed for monoclonal antibodies against H<sup>+</sup>/K<sup>+</sup>-ATPase gastric proton pump and light microscopy studies. The results showed a gradual decline (P<0.05) in the blood glucose level in the extract treated group as against the untreated diabetic group. There was a distortion of the glandular mucosa and epithelium in the untreated diabetic group vis-à-vis the extract treated and control groups. This confirms that diabetes induces pathological changes in gastric tissue. The immunohistochemical staining of the stomach of the untreated diabetic group showed that the immunoreactive parietal cells were sparse in the untreated diabetic group compared with the control group. There was a better staining pattern for H<sup>+</sup>/K<sup>+</sup>-ATPase gastric proton pump in the group treated with aqueous leaf extract of *Xylopi* *aethi* *opica* as compared with the untreated diabetic group. This is suggestive of better functionality and viability of the ion channels localized on the parietal cells. It is concluded that diabetes causes gastric pathology, thus resulting in morphological changes in the gastric histo-architecture and parietal cells. The aqueous leaf extract of *Xylopi* *aethi* *opica* enhances the recovery/restoration of these defects in streptozotocin induced diabetic rats and as such, may play a significant role in the management of complications associated with diabetes mellitus.

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