

Histology of Pancreas of Wistar Rats Treated with Aqueous Extract of Afang Leaf

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Objective: This study was meant to investigate the effect of aqueous leaf extract of *Gnetum africanum* on the microanatomy of the pancreas in adult male.

Methods: Wistar rats, eighteen adult Wistar rats weighing between 80 g-150 g allotted into three groups of six rats each was used for this study. Animals in group 1 served as the control group were fed with normal rat chew and distilled water, while group 2 and 3 served as the experimental groups treated with *Gnetum africanum* leaf extract, orally for 21 days. Group 2 (low dose group) animals were treated with 0.3 ml/kg body weight of the extract, while group 3 (high dose group) animals were treated with 0.5 ml/kg body weight of the extract. At the end of experiment, all animals were sacrificed under chloroform inhalation and the pancreas removed for histological observation using Haematoxylin and Eosin (H & E) stain.

Results: Histological observations from the study showed normal histological findings in the control and low dose group with no observable pathology. Meanwhile the high dose treated group showed pathological observation suggesting a prognosis of acinar cell cystadenocarcinoma.

Conclusion: From the result of the study, it may be deduced that consumption of *Gnetum africanum*, at moderate dosage, may have no adverse effect on the pancreas, but at high dosages, the extract may cause some pathological distortion to the microanatomy of the pancreas.

Herbal medicines are often used to provide first-line and basic health service, both to the people living in remote areas where it is the only available health service and to people living in poor areas where it offers the only affordable remedy. Even in some developing areas such as Nigeria where modern medicine is available, the interest on herbal medicines and their utilization have been increasing in the recent years.

Some of these plants that exhibit medicinal properties have been known to help in stabilizing

different internal organs in animals, while other have side-effect on the organs due to varying amount of toxic matter present in such plants. The use of herbs requires good knowledge of the toxicity dosage, purity, suitable extraction solvent and adverse effects. The prolonged usage of these herbal products without proper monitoring of the usage had brought about a number of health related problems like infertility which is a common problem affecting most couples all over the world. Decline in male fertility has been a great concern from time as male infertility accounts for about 30% of fertility cases worldwide.

Afang (*G. africanum*) is a medicinal plant usually found in humid tropical forest regions of Cameroon, Gabon, Angola as well as Nigeria, which does not grow well in direct sun light and can be found climbing on middle and under-story trees. *G. africanum* has various uses among which the leaves are used as vegetable for soups and stews, commonly called Eru soup or Afang soup. Medicinally, the leaves are used as remedy for nausea, sore throats and for warts dressing, while the stem may be eaten to reduce pain during childbirth. *G. africanum* has numerous common names and is grown in various countries across Africa including; Cameroon (Eru, Okok, m'Fumbua, or Fumbua), Angola (koko), Nigeria (Ukazi or Afang), Gabon (Koko), Central African Republic (Koko), Congo (Koko) and the Democratic Republic of Congo (m'Fumbua or Fumbua).

The pancreas is a glandular organ in the digestive system and endocrine system of vertebrates. In humans, it is located in the abdominal cavity behind the stomach. It is an endocrine gland producing several important hormones, including insulin, glucagon, somatostatin and pancreatic polypeptide, all of which circulate in the blood. Pancreas is also a digestive organ, secreting pancreatic juice containing bicarbonate to neutralize acidity of chyme moving in from the stomach, as well as digestive enzymes that assist digestion and absorption of nutrients in the small intestine.

