

Preliminary studies on the oral hypoglycaemic activity of *Alternanthera sessilis* in healthy, male, Wistar rats

Alternanthera sessilis (Amaranthaceae)- Mukunuvenne (Sinhala) is a commonly used green leafy vegetable in Sri Lanka. This study was undertaken to determine the Oral hypoglycaemic effect of *A. sessilis* after a glucose challenge.

Healthy male Wistar rats were used as the experimental model and a study was carried out to determine the effect of *A.sessilis* on blood glucose levels. Twelve rats, 7 weeks of age, were randomly divided into two groups (test and control) with 6 rats in each. After an overnight fast venous blood (0.1 mL) was drawn for determination of fasting blood glucose levels. The test group was administered 1 mL of the fresh edible portion of *A.sessilis* at a dose of 3 g/kg body weight and the control group was administered 1 mL of distilled water. After 30 min, a glucose load (3 g/kg) was administered and blood was drawn (0.1 ml) after 90 min for determination of blood glucose levels. A study to determine the optimal effective dose of *A.sessilis* on blood glucose levels was also carried out similarly using doses ranging from 2.5-7.5 g/kg body wt and 20 rats. In all these studies, serum glucose concentrations were analyzed by Glucose Oxidase Method using a DMA reagent kit (Data Medical Associates, USA). Data pairs, were compared by the Student's t-Test.

In the first study there was a significant reduction ($p= 0.012$, 25.7%) in serum glucose concentration in the test group (85.4 ± 6.2 mg/dL) as compared to the control group (115.5 ± 3.8 mg/dL) and there was no significant difference in the fasting levels. At all the doses used in the dose study, serum glucose levels of the test groups were, significantly different from the control group. The maximal reduction ($p= 0.004$, 32%) in serum glucose was found at a dose of 5 g/kg. The results indicate that the fresh edible portion of *A. sessilis* improves the glucose tolerance in Wistar rats and the optimal dose is 5 g/kg body wt.