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EVALUATION OF THE HYPOGLYCEMIC EFFECT OF *Cocciniagrandis* LEAVES IN MICE

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Many plants and plant based materials are used to treat and control diabetes mellitus. Kowakka (*Coccinia grandis*), which is a herbaceous plant in Sri Lanka, has been reported to have anti diabetic actions. Thus, the aim of this study was to investigate the hypoglycemic effect of *Coccinia grandis* leaves in mice.

Fifteen male albino mice were divided into three groups; A,B and C (n=5 per group). After one week of acclimatization, experimental feeding was commenced by feeding a broiler starter diet for all the groups. Then the group A was continued with broiler starter. Group B was fed with a diet consisting of 23.5% sucrose, 1.5% dried *Coccinia grandis* powder with 75% broiler starter. Group C was fed with a diet similar to group B, but with *Coccinia grandis* powder, replaced with saw dust. Mice were allowed free access to water and feed. After three weeks of feeding, the fed state glucose levels were measured using a commercially available glucometer. After an overnight fast, the Glucose Tolerance Test (GTT) was performed in individual mice of each group. Then the animals were sacrificed and blood samples were collected, serum was separated and frozen (-20^{o}C) for further analysis. Serum glucose levels were measured by spectrophotometry using a commercially available glucose analysing kit.

The results revealed a significant reduction ($p<0.05$) of fed state plasma glucose levels and fasting serum glucose levels in Group A and B as compared with group C after three weeks of feeding trial. At the beginning of GTT fasting glucose levels in blood (0-time) were significantly lower in Group A and B compared with Group C. The results of the GTT, revealed that *Coccinia grandis* fed mice (Group B) exhibited a significant reduction of glucose levels at 60 and 120 minutes compared to the other two groups.

It can be concluded that *Coccinia grandis*, which is abundant in our environment, effectively reduced hyperglycaemia in mice fed with a diet containing a high proportion of sucrose. Its hypoglycaemic property may also be useful for controlling hyperglycemia in diabetes mellitus.