

A preliminary study on the effect of a single dose of *Ipomoea aquatica* (Convolvuiaceae) on intestinal glucose absorption of healthy, male, Wistar rats

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ABSTRACT

Past studies have shown that *Ipomoea aquatica* Forsk. (Convolvuiaceae) exerts an oral hypoglycaemic effect on normal and diabetic Wistar rats, as well as type II diabetic patients. The present study was done to determine the effect of the fresh edible portion of the plant on intestinal glucose absorption of healthy, male, Wistar rats.

Rats were divided into 2 groups termed test and control with 6 in each. After an overnight fast, the rats were subjected to a glucose challenge. It was preceded 0.5 h earlier by the administration of the whole extract of *I. aquatica* in the test group and distilled water in the control group (1 ml each). Two hours after the administration of the extract/ water, the animals were sacrificed and the intestines harvested. Blood was also drawn by cardiac puncture. Glucose concentrations in the serum and the intestinal contents were determined by the glucose oxidase method. The glucose concentrations of the intestinal contents after the glucose challenge 12.7 and 29.3 2.1 mg/dl in the test and control groups ($p=0.0003$) respectively where as the glucose concentrations in the serum 100.0 156.9 13.8 mg/dl, in the two groups ($p=0.02$) respectively. The whole extract had enhanced the absorption of glucose in the intestine as shown by the lower level of glucose in the intestinal contents of the test group. At the same time, the glucose that had come into the system had effectively been cleared from blood. This may indicate that the aqueous extract of *I. aquatica* also enhances the uptake of glucose by peripheral tissues. We recommend a larger study to confirm these findings.