A-25: Effect of different extracts of *Swertia zeylanica* (kiratha) on glucose homeostasis in normal healthy rats

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Swertia zeylanica (Family Gentianaceae) is a medicinal plant used in the traditional system of medicine as an anthelminthic, febrifuge and a bitter tonic. There are no reports available on the use of this plant for metabolic disorders such as diabetes mellitus. However, 2 plants closely related to *S. zeylonica*, namely *Swertia japonica* and *Swertia chirayita* have been shown to possess significant hypoglycaemic properties in scientific studies. Present study was undertaken to evaluate the effect of different extracts of *S. zeylanica* on glucose homeostasis of normal healthy Sprague Dawley rats.

Dried 70% ethanolic extract (50g) of the whole plant of *S. zeylanica* was sequentially extracted with chloroform and butanol and the extracts concentrated in vacuo. Blood glucose levels of fasting rats (n=6) given the extracts (5g/kg) orally via a stomach tube were monitored at 1h intervals for 5h. Serum was separated immediately and 10 µl was used for the estimation of glucose by glucose oxidase method. Similar experiment was conducted after giving a standard oral dose of glucose (2.5g/kg) 15 min. after administration of the extracts. Control group of animals received distilled water in place of the extracts. Crude 70% ethanolic extract and the chloroform fraction showed a significant reduction ($p<0.02$ and $p<0.01$) in the fasting blood glucose levels and

also significantly improved glucose tolerance ($p<0.02$ and $p<0.01$) compared to the control group given distilled water.

The results indicate that *S zeylanica* has significant hypoglycaemic activity and active component or components responsible for this effect is or are present in the chloroform fraction.