# ORAL HYPOGLYCAEMIC ACTIVITY OF THE TRADITIONAL NATIVE DRUG *VARIPRASADINADI* AND THE ANTIOXIDANT ACTIVITY OF THE DRUG AND ITS CONSTITUENTS

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*Variprasadinadi* is a herbal drug used in native medicine in Sri Lanka to treat diabetes mellitus by traditional physicians. *Variprasadinadi* consists of eight plants, *Strychnos potatorum* L.f., *Santalum album* L., *Cyperus rotundus* L., *Tinospora cordifolia* (Wild.) Hook. f. & Thoms., *Hemidesmus indicus* L., *Elettaria cardamomum* (L.) Maton var. major Thw., *Vetiveria zizanioides* (L.) Nash. and endemic species, *Coleus zeylanicus* (Benth.) Cramer.

The aim of this study was to scientifically investigate the effect of drug *variprasadinadi* on serum glucose level using normoglycaemic Wistar male rats and further to investigate free radical scavenging activity of the drug and its constituents of *variprasadinadi* using the DPPH method.

The aqueous decoction of *variprasadinadi* was freeze-dried and the resulting powder was used in the animal studies and antioxidant assay. The doses tested in the hypoglycaemic assay were 50, 75 and 150 mg/kg of body weight of freeze-dried powder of the *variprasadinadi.* Acute oral administration of the medium and high doses of *variprasadinadi* to rats has significantly ($p< 0.05$) reduced the fasting serum glucose level up to 4 h after the administration and in oral glucose tolerance test, significantly suppressed the rise of serum glucose following the glucose challenge ($p<0.05$). Hypoglycaemic activity was not found to be dose dependant ($r^2 = 0.2$). Hypoglycaemic

effect was weaker than glibenclamide, the reference hypoglycaemic drug of sulphonylurea type.

The acute oral administration of high dose of the drug for the non-fasted rats did not significantly affect the serum glucose level in the random serum glucose test and the chronic oral administration of high dose of *variprasadinadi* over a period of 30 days did not significantly affect the fasting serum glucose level of rats.

The average radical scavenging activity of *variprasadinadi* with DPPH was moderate. The freeze-dried extracts of *Cyperus rotundus* and *Coleus zeylanicus* exhibited a significant antioxidant activity. Anti-hyperglycaemic activity of the drug may be associated in a part with its antioxidant activity.

It is concluded that the *variprasadinadi* is a safe, acute oral hypoglycaemic and anti-hyperglycaemic compound drug. Further the results of the present study support the claims made in the Sri Lankan traditional medicine on the therapeutic uses of the decoction *variprasadinadi* in the treatment of diabetes mellitus.