

A comparative profile of methanol extracts of *Allium cepa* and *Allium sativum* in diabetic neuropathy in mice

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ABSTRACT

Introduction Diabetic Neuropathy (DN) is a major microvascular complication of uncontrolled diabetes. This may result from increased oxidative stress that accompanies diabetes. Hence plants with antioxidant action play an important role in management of diabetes and its complications. **Materials and Methods** This study was designed to evaluate preventive as well as curative effect of methanol extracts of outer scales and edible portions of two plants with established antioxidant action - *Allium cepa* and *Allium sativum*, in induced DN in albino mice. Mice were divided into control, diabetic and test extracts treated groups. Test extracts were administered daily at a dose of 200 mg/kg p.o. for 21 days, in the preventive group prior to onset of DN, and in the curative group after the onset of DN. Hyperalgesia and oxidative stress markers were assessed. STZ-diabetic mice showed a significant thermal hyperalgesia (as assessed by the tail-flick test), indicating development of DN. **Results** Treatment with test extracts prevented loss in body weight, decreased plasma glucose level, and significantly ameliorated the hyperalgesia, TBARS, serum nitrite and GSH levels in diabetic mice. **Conclusion** Methanol extract of outer scales of onion has shown most significant improvement; may be due to higher content of phenolic compounds in outer scales of *A. cepa*.

KEYWORDS

Allium cepa . *allium sativum* . diabetic neuropathy . oxidative stress

REFERENCES

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