

## Anti-ulcer activity of *Ipomoea batatas* tubers (sweet potato)

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### **Abstract**

**Background:** Peptic ulcers occur in that part of the gastrointestinal tract which is exposed to gastric acid and pepsin, i.e., the stomach and duodenum. Gastric and duodenal ulcers are common pathologies that may be induced by a variety of factors such as stress, smoking and noxious agents including non-steroidal anti-inflammatory drugs. *Ipomoea batatas* tubers (sweet potato) contain ample amounts of antioxidants. It has been proven already by many scientific studies that antioxidants have ulcer healing properties. In reference to this, we tried assessing the ulcer healing effect of *Ipomoea batatas* tubers.

**Methods:** The anti-ulcer activity of the tubers of *Ipomoea batatas* (sweet potato) was studied in cold stress and aspirin-induced gastric ulcers in Wistar rats. Methanolic extracts of *Ipomoea batatas* tubers (TE) at two doses, viz., 400 and 800 mg /kg were evaluated in cold stress and aspirin-induced gastric ulcer models using cimetidine and omeprazole respectively as standards. The standard drugs and the test drugs were administered orally for 7 days in the cold stress model and for 1 day in the aspirin-induced gastric ulcer model. Gastroprotective potential, status of the antioxidant enzymes {superoxide dismutase (SOD), catalase (CAT), glutathione peroxidase (GPx) and glutathione reductase (GR)} along with GSH, and lipid peroxidation were studied in both models.

**Results:** The results of the present study showed that TE possessed gastroprotective activity as evidenced by its significant inhibition of mean ulcer score and ulcer index and a marked increase in GSH, SOD, CAT, GPx, and GR levels and reduction in lipid peroxidation in a dose dependant manner.

**Conclusion:** The present experimental findings suggest that tubers of *Ipomoea batatas* may be useful for treating peptic ulcers.

**Key Words:** Sweet potato tubers, cold stress, aspirin, ulcer, antioxidants.