



## EVALUATION OF THE GERANIOL GASTRIC HEALING MODE IN RODENTS

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### **INTRODUCTION**

Geraniol (GE) is dietary acyclic monoterpene alcohol found in the essential oils from aromatic plants with therapeutic value against gastric ulcers already described.

### **MATERIAL AND METHODS**

Gastric healing effects and underlining mechanisms, as well as the behavioral changes, were carried out using the 80% acetic acid-induced gastric ulcer model in rats receiving GE by oral (30 mg/kg) or inhaled route (1 mg/L of air/min); whereas the effects of GE to avoid ulcer recurrence was evaluated in mice submitted to 10% acetic acid plus IL-1 $\beta$  ulcer. All protocols were approved by the Institutional Animal Ethics Committee on UNIVALI (CEUA/UNIVALI, approval number 036/2016 and 053/2017).

### **RESULTS**

GE administered by both routes accelerates gastric healing, increasing mucin and reduced glutathione (GSH) levels, catalase (CAT), and glutathione-S-transferase (GST) activities, and reducing myeloperoxidase (MPO) activity. Moreover, oral, and inhaled GE minimized ulcer recurrence reducing gastric tumor necrosis factor (TNF) and interleukin-6 (IL-6) levels

and preserving mucin levels. Interestingly, the inhalation or oral intake of GE, promotes anxiolytic-like effects in ulcerated rats.

### **CONCLUSIONS**

Data altogether suggest that the GE accelerates gastric healing through the strengthening of protective factors of the gastric mucosa, promoting a quality healing that reduces the recurrence of the lesion. Besides, the anxiolytic-like effect of GE may also contribute to its gastric healing action since anxiety is recognized as one of the etiologic agents of ulcers.

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