

## **CINEOLE, THYMOL AND CAMPHOR NASAL CHALLENGES AND THEIR EFFECT ON NASAL SYMPTOMS AND COUGH IN AN ANIMAL MODEL**

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According Morice (1994) inhalation of aromatic vapors in naive animals suppressed coughing induced by citric acid (CA). Based on rtPCR studies and experiments on animals with separated airways it is suggested that this effect is mediated via nasal afferents.

Study was aimed to ascertain efficacy of nasal application, but not inhalation of cineole, thymol and camphor on nasal symptoms and CA induced cough in a model of allergic rhinitis in ovalbumin (OVA) sensitized guinea pigs (n=13) .

Cough was induced by CA after pretreatment with nasal drops made of mentioned substances in randomized order (all  $10^{-3}M$ , 0.015ml) and was recognized based on airflow traces and cough sound. Total, cumulative cough count and cough latency were analyzed.

Repeated nasal challenges with OVA induced reproducible symptoms and cough induced by CA during early phase of allergic rhinitis was enhanced. Nasal pretreatment with aromatic substances did not prevent onset of symptoms, however it showed cough suppressing effect for camphor, thymol ( $25\pm3$  vs  $7\pm2$  vs  $14\pm2$ ;  $p<0.05$ ) but not for cineole. Cough latency followed this trend. Local nasal application of aromatic substances in a form of sprays/drops significantly alleviate cough in our model, although the objective nasal signs scale remain unchanged.

"This project was supported by Center of experimental and clinical respirology, co-financed from EU sources"