

ANIMAL MODEL OF UPPER AIRWAY COUGH SYNDROME - RELEVANCE OF THE H4 RECEPTOR ANTAGONISTS FOR COUGH SUPPRESSION

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Older generation antihistamines are empirically used in subjects with upper airway cough syndrome (UACS) with either direct or indirect effects on the mechanisms up-regulating coughing. Nowadays, attention is given to new histamine receptor antagonists (H4), which are expressed on immune cells, nasal nerves and glands.

The aim of our study was to assess the efficacy of H4 antagonist JNJ 7777120 on nasal symptoms magnitude and cough in ovalbumine (OVA) model of UACS in guinea pigs.

Animals (n=15) were sensitized by intraperitoneal OVA and animals were repeatedly challenged with nasal OVA to induce rhinitis and up-regulate coughing. In the trial, animals were pretreated with JNJ 7777120 0.25; 0.5 mg/kg, intraperitoneally 30 minutes prior OVA nasal exposure. Cough was induced by inhalation of citric acid 0.4 M. Final cough count was confirmed based on airflow traces, and software SonicVisualiser.

Pretreatment with 0.25 mg/kg showed only tendency to decrease coughing and nasal symptoms. Dose 0.5 mg/kg suppressed the nasal symptoms, and number of coughs (19 ± 3 vs 10 ± 1 , med \pm IQR, $p < 0.05$). Further experiments need to be performed to assess the potency of other H4 antagonists in this model.

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