

## **EFFECT OF PROVINOL AND ITS COMBINATIONS WITH CLINICALLY USED ANTI-ASTHMATICS ON DEFENCE MECHANISMS OF AIRWAYS DURING EXPERIMENTALLY INDUCED ALLERGIC ASTHMA**

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**Introduction:** Our previous studies showed that Provinol (polyphenolic compound) has anti-inflammatory activity during allergic inflammation. In the next experiment, we studied the effects of Provinol and its combinations with clinically used antiasthmatics – budesonide (Bud) and theophylline (Teo) on airway defence mechanisms during experimental allergic asthma.

**Methods:** The experimental animals were treated during 21 days ovalbumin sensitisation with Provinol (20 mg/kg/day p.o.), Bud (1mM by inhalation), Teo (10mg/kg/day i.p.) and with half-dose combinations of these substances. The changes of airways defence mechanisms: cough reflex, specific airway resistance (sRaw) were evaluated by *in vivo* method. The tracheal smooth muscle reactivity and mucociliary clearance were examined by *in vitro* method.

**Results:** Our result showed that 21 days administration of Provinol caused: a significant decrease of sRaw; the decline in tracheal smooth muscle contraction amplitude; suppression of cough reflex; positive modulation of ciliary beat frequency. The bronchodilatory and antitussive effect of Provinol was comparable to Teo and Bud.

**Conclusion:** Provinol had bronchodilatory, antitussive effect and positively modulate mucociliary clearance. Furthermore, Provinol amplified the bronchodilatory and antitussive effect of budesonide and theophylline.