

TUSSIGENIC AGENTS IN THE MEASUREMENT OF COUGH REFLEX SENSITIVITY

R. Pecova, N. Javorkova, J. Kudlicka, and M.Tatar

Department of Pathological Physiology, Jessenius Faculty of Medicine, Comenius University, Martin, Slovakia; tatar@jfmed.uniba.sk

Different inhalation methods are used for cough reflex sensitivity measurements. A single-breath method of tussigenic agent aerosol inhalation is commonly used.

Aim: The aim of this study was to compare two tussigenic agents – citric acid (CA) and capsaicin (CAPS) – in cough reflex sensitivity measurements in healthy volunteers.

Material and methods: In 17 healthy volunteers (7 M, 10 F; mean age 21 years) without respiratory tract infection during the preceding 3 weeks, without cardiovascular, allergic, respiratory and metabolic diseases, and with normal lung function test, the cough reflex sensitivity was examined by nebulizer ProvoJet (Ganshorn Medizin Electronic, Germany) with doubled concentrations of CAPS (SIGMA) from 0.49 to 1000 $\mu\text{mol/l}$ and CA (LACHEMA) concentrations of 1, 3, 10, 30, 100, 300, 1000 mmol/l . The cough reflex sensitivity was defined as the lowest concentration of tussigenic agents which elicited 2 and 5 coughs (C2, C5).

Results: Geometric mean and 95% confidence interval (CI) of citric acid C2 was 454.5 (284.8-725.4) mmol/l in 88.2% of the volunteers; CA C5 was 1000 mmol/l (0) in 47.1 % of the volunteers. Capsaicin C2 was 23.5 (8.2-67.5) $\mu\text{mol/l}$ in 100% of the volunteers and C5 was 263.7 (111.2-625.1) $\mu\text{mol/l}$ in 76.5 % of the volunteers.

Conclusion: A single-breath capsaicin test is more relevant for cough reflex sensitivity measurements in healthy volunteers than a citric acid cough test.

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