

THE INFLUENCE OF AUTONOMIC NEUROPATHY ON COUGH REFLEX SENSITIVITY IN CHILDREN WITH DIABETES MELLITUS TYPE 1

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Diabetic autonomic neuropathy is manifested by dysfunction of one or more organ systems which are innervated by autonomic nervous system (ANS). Its subclinical form (sDAN) can be recognized very soon thanks to battery of noninvasive cardiovascular reflex tests. As cough reflex is mediated via ANS, there is a reason to suppose that its sensitivity to potentially harmful substances can be changed due to presence of sDAN. The aim of our study was to find out, whether cough reflex sensitivity (CRS) in diabetic children with and without sDAN (established according to heart rate response to deep breathing) is changed compared with that in healthy subjects. The CRS to capsaicin (defined as concentration of capsaicin, which evoked 2 and more coughs) in the group of diabetic children (n=35, geometrical mean of CRS was 75.1 $\mu\text{mol/l}$ (95% CI: 42.01-134.15 $\mu\text{mol/l}$)) was not significantly changed compared with the CRS in healthy children (n=27, geom. mean of CRS was 72.4 $\mu\text{mol/l}$ (95% CI: 75.7-644.8 $\mu\text{mol/l}$)). A significant decrease (P=0.005) of CRS was detected in diabetic children with sDAN (n=12; geom. mean 221.0 $\mu\text{mol/l}$ (95% CI: 75.7-644.8 $\mu\text{mol/l}$)) compared with diabetic children without sDAN (n=23; CRS 42.7 $\mu\text{mol/l}$ (95% CI: 23.1-79.0 $\mu\text{mol/l}$)). Decreased defensive reactivity of the respiratory tract could be one factor that predisposes diabetic patients to higher morbidity of respiratory tract infections.

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