



Effect of dry sodium chloride aerosol on the respiratory tract of tobacco smokers

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The aim was to study influence of dry sodium chloride aerosol (DSCA) on the respiratory tract of tobacco smokers. 47 male were examined. They had the productive cough associated with smoking. The test group (TG) (24 male, 49,9±1,2 yrs; 27,0±1,7 pack/years) was treated with the DSCA. 20 procedures (10 min daily) were given using inhaler Haloneb, producing DSCA with particles size of 1-5 µm and 0,5 mg/min density. The placebo group (PG) (23 male, 49,5±1,5 yrs; 27,9±2,3 pack/years) received inhalations with plain air.

88% of smokers of TG by the end of inhalation course reported easier and/or decreased cough, changes in the character of sputum, which became lighter and clearer. Improvement in the character of sputum was noted only 22% volunteers of PG (p<0,001). Cytobacteriologic study of brush biopates taken from pharyngeal mucosa was carried out before and after procedures in the both groups. It was determined that the infection index (II - % of epitheliocytes with adhered cells of *S. pneumoniae*) and adhesion index (AI - the mean number of microbial cells per one epitheliocyte) decreased significantly in the TG (II before 28,1±5,8 and after 7,8±2,7%, p<0,01; IA before - 45,4±11,3 and after - 13,9±6,3 microbe cells, p<0,01). The IgA in epithelial cells of the oropharyngeal mucosa (estimated by indirect method of fluorescent antibodies) increased significantly in the TG (before - 1,50±0,9 and after - 2,1±0,6, p<0,05). There were no significant changes at these indexes in the PG.

Conclusion. DSCA relieves the main symptoms (cough and sputum), improve local defense mechanisms and resistance of mucous membranes of tobacco smokers owing to decreased colonization activity of pathogenic microgerm.

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