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Title: Inflammatory cells composition of bronchial brush-biopsies in dependence on infectional agent species at COPD exacerbation

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Body: 46 COPD exacerbation patients were examined. Cytological research of brush-biopsies were taken at bronchoscopy was made; for verification of infectional nature of COPD exacerbation the quantitative bacteriological sputum research, definition of diagnostic main IgG, IgM levels to Ch.pneumoniae, M.pneumoniae in serum by means immuno-assay method, definition of their genomes fragments in sputum by means of PCR method were made. Kruskal – Wallis criterion was used. Infectional character of COPD exacerbation was confirmed at 36 patients. Inflammatory cells composition in bronchial brush-biopsy were researched. Macrophages quantity was reliable high ($p<0.05$) in M.pneumoniae infection (55.1±0.9%) as compared with S.pneumoniae H.influenzae, Ch.pneumoniae, M.catarrhalis (33.7±3.7%, 27.4±3.0%, 25.2±3.5%; 36,2±4,9% accordingly). Neutrophiles count was reliable high ($p<0.05$) in H.influenzae, Ch.pneumoniae (50.3±4.5%, 56.5±4.2% accordingly) as compared with S.pneumoniae, M.pneumoniae M.catarrhalis (36.1±4.0%, 30.8±4.7%, 34.8±4.6% accordingly). Eosinophiles count was reliable high in S.pneumoniae infection (3.7±1.4%) as compared with H.influenzae, Ch.pneumoniae, M.pneumoniae, M.catarrhalis (3,0±1,5%; 2,0±1,1%; 1,2±0,1%; 1,4±0,6% accordingly) ($p<0.05$). Infectional agent species influence on intensification and character of inflammation in bronchial mucosa in COPD exacerbation. M.pneumoniae induces mononuclear response, H.influenzae, Ch.pneumoniae induces polymorphonuclear response.