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Title: Impact of mucolytic treatment on COPD exacerbations

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Body: Ambroxol (A) is used in the treatment of patients with pulmonary diseases. Apart from mucolytic activity the efficacy of A may be due to its immunomodulatory properties. The aim was to study the efficacy of A in treatment of patients with chronic obstructive pulmonary disease (COPD). Methods: The study included 52 patients with exacerbations of COPD. Bronchoalveolar lavage fluid (BALF) obtained during bronchofiberscopy was examined for the determination of cell composition and immunoglobulins (Ig) concentration. The patients were divided into 2 groups. 25 patients with COPD received standard therapy (antibiotics, bronchodilators, glucocorticosteroids) and A inhalations. The other 27 patients received standard therapy and inhalations with placebo (sodium chloride solution). Results: In patients with COPD exacerbations the content of alveolar macrophages and the level of Ig in BALF were reduced. The use of A as a part of combined therapy for COPD exacerbation decreased the intensity of clinical symptoms, increased the level of Ig and the content of alveolar macrophages in BALF. In the case of standard therapy disorders in the local immunity and cell composition of BALF were maintained, the duration of exacerbation period was longer. Conclusion: Ambroxol administration in COPD exacerbations improved the state of local immunity and cell composition of BALF, increased the treatment efficiency.