


# Recent Insights into the Management of Inflammation in Asthma [Letter]

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## Dear editor

Recently, Rupani et al<sup>1</sup> released a paper in the Journal of Inflammation Research, entitled “Recent Insights into the Management of Inflammation in Asthma.” The results mentioned in the original paper<sup>1</sup> are incomplete due to the fact that the authors did not take into account aerosols of expectorants that can optimize the patency of the respiratory tract for corticosteroids in obstructive bronchitis. Essentially an article by Rupani et al<sup>1</sup> is devoted to substantiating the importance of anti-inflammatory drugs in the treatment of patients with asthma, to eliminate curable signs of this heterogeneous disease and the need to continue the study of inflammatory pathways for new therapeutic purposes. The authors showed that inhaled corticosteroids (ICS) remain the basis of asthma treatment. They proved the advantages and safety of treating asthma with aerosols of corticosteroids with small particles. However, the authors did not indicate another possibility of optimizing treatment with corticosteroids, namely, by combining them with expectorants that dissolve thick mucus and pus. Then there are questions: 1) Is it true that aerosols of expectorants are not used when inhaled with inflammation of the respiratory tract ? 2) Can mucus and pus fill the airway lumen and impair the delivery of corticosteroid aerosol to the small bronchi, bronchioles and alveoli in asthma, and can inhaled expectorants potentiate ICS ?

First, when analyzing the information, the authors took into account intravenous, oral and inhaled corticosteroids to prove their effectiveness and safety in asthma. At the same time, it was shown that ICS are safer, since they allow using smaller doses of corticosteroids in the treatment of asthma. But with asthma, a mechanical obstacle in the form of mucus and sputum may appear in the respiratory tract, which impair the delivery of corticosteroids to the distal parts of the lungs. The authors did not find drugs that eliminate respiratory obstruction, so they suggested using ultrafine-particle inhalers to improve the delivery of corticosteroids to the small bronchi and bronchioles in asthma.

This indicates that sputum, mucus and pus really worsen the airway patency for ICS in asthma, so expectorants and mucolytics can be used to improve the airway patency for ICS, although they were not included in the analysis. Therefore, it is necessary to further study the information to prove the effectiveness and safety of expectorants and mucolytics to eliminate respiratory obstruction, improve the delivery of ICS to the distal parts of the lungs and improve the treatment of asthma

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patients. In our opinion, in this case, an additional search and analysis of information is a suitable method, for example, using the following keywords:

1. Expectorants
2. Mucolytics
3. Obstructive bronchitis
4. Respiratory obstruction
5. Solvent of mucus and sputum
6. Pus solvent
7. Biomechanics of respiration

The fact is that with additional studies and analysis of information, the possibility of using expectorants and mucolytics to reduce airway obstruction in patients with asthma will be shown. In addition, it may turn out that the use of these drugs will improve the effectiveness and safety of ICS. In addition, the possibility of using not only ICS, but also inhaled expectorants (IEP) for the successful treatment of asthma may be shown.

It is quite possible that with the help of such additional studies, it will be possible to optimize the treat-

ment of asthma with ICS due to their combination with expectorants, mucolytics and/or drugs that dissolve pus in moderate and severe airway obstruction. For example, at the beginning of 2021 in Russia, the possibility of treating obstructive bronchitis with inhaled expectorants, including hydrogen peroxide and sodium bicarbonate, was shown.<sup>2</sup>

Clarifying the potential possibilities of enhancing the therapeutic effect of ICS in asthma with the help of inhaled expectorants can expand the arsenal of anti-asthmatic drugs and increase the effectiveness of asthma treatment in the future.

## Disclosure

The authors report no conflicts of interest related to this communication.

## References

1. Rupani H, Fong WCG, Kyyaly A, Kurukulaaratchy RJ. Recent insights into the management of inflammation in asthma. *J Inflamm Res.* 2021;14:4371–4397. doi:10.2147/JIR.S295038
2. Urakov AL, Urakova NA. COVID-19: optimization of respiratory biomechanics by aerosol pus solvent. *Russ J Biomech.* 2021;25(1):86–90. doi:10.15593/RJBiomech/2021.1.07

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