

# PECULIARITIES OF CLINICAL MANAGEMENT OF ASTHMA DURING CORONAVIRUS DISEASE (COVID-19) PANDEMIC

**L. I. Konopkina**

*Abstract*

The review is dedicated to the problem of interrelations between asthma (A), COVID-19 and inhaled corticosteroid (ICS) therapy.

According to Global Initiative for Asthma (GINA) long-term treatment with systemic corticosteroids may lead to significant immunosuppression. Potentially, this is associated with higher risk of incidence and severity of viral infections. That was the reason why WHO in the beginning of 2020 had not granted recommendation for using systemic corticosteroids in COVID-19 patients if not indicated for other causes (including A and COPD exacerbations, usually requiring short course of oral corticosteroids).

In Spring 2021 GINA renewed its recommendations on COVID-19 in A patients considering the grade of A symptoms control. It was demonstrated that patients with well-controlled A (mild to moderate) were neither at higher risk of COVID-19 occurrence nor of its more severe course. The risk of death from COVID-19 was also not increased in patients with well-controlled A. Moreover, in A patients 50 years of age and older, regularly taking ICS and admitted to hospital due to COVID-19, the mortality rate was lower than in other hospitalized patients.

Today, it is important to debate whether ICS may interfere with the possibility of getting infected by coronavirus. It is well known that budesonide is one of most often prescribed ICS molecule. Budesonide in vitro has demonstrated a potential antiviral effect against different types of SARS-CoV-2. There are several ongoing studies in vivo: NCT04416399 (Great Britain; completed), NCT04355637 (Spain), NCT04193878, NCT04377711 (USA), NCT04331470 (Iran), NCT04330 (South Korea).

The results of STOIC study, organized and conducted by Oxford university scientists, are of special interest. It was demonstrated that outpatient use of budesonide in COVID-19 patients reduced the risk of hospitalization and emergency care utilization by 90 %. There was a statistically significant reduction in symptoms intensity and time to clinical cure.

Interim results of PRINCIPLE study suggested that early treatment with inhaled budesonide shortens recovery time by a median of three days (comparing with usual care). In Budesonide Turbohaler group 32 % patients reached sustain recovery within 14 days of randomization (comparing with 22 % of patients in usual care group).

*Conclusion.* Despite interim character of presented clinical trials data in this review, use of inhaled budesonide in COVID-19 patients, from our point of view, may be considered in particular clinical cases after a obligatory discussion with the patient.