

Evaluation of the treatment efficacy in the patients with viral etiology community acquired pneumonia (COVID-19) with the use of syndrome-pathogenetic small volume infusion therapy according to computer tomography data

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Conflict of interest: none

BACKGROUND. In a pandemic, when the etiotropic therapy of SARS-CoV-2 has not yet been developed, a comprehensive individual syndrome-pathogenetic approach to the treatment of patients with community-acquired pneumonia of viral etiology (COVID-19) is extremely important. The search for new commonly available drugs that can affect the inhibition of the cytokine storm, eliminate endothelial dysfunction and accelerate reparative processes in the lungs is relevant. At the same time the parenteral way of administration of the drugs provides the maximum bioavailability.

OBJECT. To evaluate the treatment efficacy in the patients with viral etiology community-acquired pneumonia (COVID-19) with the use of syndrome-pathogenetic small volume infusion therapy according to computed tomography (CT) data.

MATERIALS AND METHODS. We examined 12 patients (9 men and 3 women aged 18 to 62 years) with viral etiology community-acquired pneumonia (COVID-19), who were appointed for the treatment to the SI "National institute of phthisiology and pulmonology named after F.G. Yanovsky of the NAMS of Ukraine" in the acute period of the disease. 10 patients (8 men and 2 women aged 21 to 57 years) were referred to the institute from other medical institutions, where they were treated for viral etiology community-acquired pneumonia (COVID-19) 2-3 months ago. In addition to standard therapy all patients were additionally prescribed small volume infusion therapy 1-2 times a day for 10 days: Reosorbilact intravenous infusion 200 ml per day; Xavron (edaravon) 30 mg, which was diluted in 100 ml of saline, was administered intravenously; Tivorel (L-arginine and L-carnitine) intravenous infusion 100 ml per day. CT of the chest was performed on a scanner Aquilion TSX-101A (Toshiba, Japan) followed by comparative analysis.

RESULTS AND DISCUSSION. Prior to treatment, patients with the viral etiology community-acquired pneumonia (COVID-19) had a systemic inflammatory process in both the acute and post-COVID-19 periods, which according to chest CT showed the same radiological symptoms: the presence of "ground-glass" and consolidation. Lesions of the lung parenchyma ranged from 30 to 60 %. After the course of treatment, all patients had a positive clinical effect, which was confirmed by positive radiological dynamics. At the same time, complete regression of pathological changes in the lungs was observed in 50 % of the patients with acute COVID-19 and in 40 % of the patients with post-COVID-19 syndrome.

CONCLUSIONS. In the acute period of coronavirus infection when the patient is admitted to the hospital, it is advisable to additional use of the syndrome-pathogenetic treatment with such drugs: edaravon, a fixed combination of L-arginine and L-carnitine, hyperosmolar crystalloid solution in the regimen of small volume infusion therapy. This therapy can be used for patients in the post-COVID-19 period, when clinical symptoms, laboratory parameters of systemic inflammation, as well as characteristic pathological changes on chest CT present.

KEY WORDS: COVID-19, SARS-CoV-2, community-acquired pneumonia, treatment, infusion therapy, computed tomography.