

## RESOLUTION

# Of Teleconference «New wave of COVID-19 in Ukraine: practical experience of doctors from reference hospitals»

**October 18, 2022**  
**Kyiv, Ukraine**

Almost 8 000 healthcare system specialists have registered to participate in the teleconference.

As part of the event, leading specialists and practitioners in the field of infectious diseases, pulmonology, anesthesiology and intensive care shared their expert ideas and experience of management of patients with COVID-19.

6 reports dealing with the following issues were offered to participants for review and discussion:

- Specific features of progression of COVID-19, caused by Omicron variant
- Strategy for management of patients with COVID-19
- Cytokine storm in case of COVID-19: how to prevent mortal complications?
- Reasonable antibacterial treatment of bacterial infections: what has changed within 3 years of pandemic COVID-19?

### **Conclusions and decisions based on discussion of reports:**

1. A new wave of COVID-19 coronaviral disease caused by variants of the strain «Omicron» has started in Ukraine. «Omicron» has different specific features of progression with negative effects on the human body, which have not yet been sufficiently studied: more intensive transmission of the virus and involvement in the epidemiological process of children of different ages, shorter incubation period, more severe course of the disease in patients with comorbidity with the development of decompensation against the background of diabetes mellitus, AH, heart failure, the development of decompensation even in young people, the development of thrombosis sometimes in the debut of the disease and an increase in the number of cases of transient encephalopathy. Variant «Omicron» causes neurological and psychiatric effects at the same level with previous waves of COVID-19.
2. Cytokine storm is the most notable complication in patients with coronaviral disease in 2019 (COVID-19), which stimulates a free-radical storm, both of which cause an over-active immune response during viral infection. During cytokine storms the level of cytokines in the blood increases dramatically, leading to uncontrolled inflammation and damage to the organs. Due to its anti-inflammatory and anti-radical properties, Edaravone can prevent development of cytokine storm and thus contribute to reduction of multi-organ damage and clinical complications in COVID-19. Based on the results of the presented randomized clinical study conducted in the intensive care units of the Clinical Hospital of the Tabriz University of Medical Sciences to assess the effect of Edaravone on results of patients with COVID-19, Edaravone

administration has been shown to reduce the need for endotracheal intubation and ALV by a factor of 4 and a factor of 9 in the duration of intubation compared to the control group.

3. COVID-19 is considered a systemic vascular disease that affects multiple organs due to endothelium damage. Amino acid metabolism is a decisive factor in the pathophysiology of COVID-19, in particular in patients with COVID-19 a decrease of L-arginine levels in plasma has been reported along with increased arginase activity, especially in the most severe forms. It is recommended to use NO donator to increase vasodilation and improve microcirculation, prevent activation and adhesion of lymphocytes and platelets. Results of a randomized study by G.Fiorentino (2021) suggest adding of L-arginine to standard therapy in patients with COVID-19: in the L-arginine group there was a significant decrease in respiratory support and a decrease in hospitalization time compared to the placebo group.
4. The immunomodulatory effect of L-carnitine lies in inhibition of the proinflammatory cytokines TNF- $\alpha$ , IL-6 and IL-1 in conditions of a «cytokine storm». The drug is a direct antioxidant, preventing cell apoptosis, has a cardio-protective effect. The results of two large-scale meta-analyses - DiNicolantonio (2013) and Askarpour M. et al. (2019) – confirm the effectiveness of L-carnitine therapy in cardiovascular patients due to reduced mortality, improved quality of life, lower cholesterol level, normalized heart rate, reduced nitrate requirements. Therefore, to protect the cardiovascular system in patients with COVID-19, it is advisable to consider the use of a combination of L-arginine and L-carnitine in conjunction with standard hospital therapy.
5. The course of COVID-19 of moderate severity is characterized by clinical signs of pneumonia, which manifests itself in severe intoxication syndrome, hemodynamic changes, pronounced respiratory failure. Studies on the use of Rheosorbilact in pneumonia have found a shorter hospital stay of patient, earlier stabilization of acid-base balance and coagulogram. Significant reductions in C-reactive protein and white blood cells have also been observed. Administration of the drug has a favorable safety profile: it does not cause fluid overload, lung edema, pleural effusion or other serious undesirable effects.
6. Changes in the epidemiology of infectious diseases do not affect the use of antibiotics in these diseases. During the pandemic, there was a decrease in the number of community-acquired pneumonia caused by respiratory viruses other than SARS-CoV-2, but the bacterial etiology of community-acquired pneumonia has not changed. In the absence of new prospective studies on the sensitivity of common pathogens to antibiotics, it is better to look at the data that were available before the pandemic. The TOP 3 pathogens of community-acquired pneumonia: *S. pneumoniae*, *H. influenzae* and *M. pneumoniae* have 100% sensitivity to moxifloxacin, which justifies high efficiency and the presence in the treatment protocol for community-acquired pneumonia and COVID-19.

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