

Diagnostics of complicated course of community-acquired pneumonia of viral etiology (COVID-19) via using chest computed tomography

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Conflict of interest: none

BACKGROUND. To date, radiological criteria for the diagnosis of viral pneumonia associated with SARS-CoV-2 have been established, and treatment regimens for patients depending on the severity of coronavirus disease (COVID-19) have been developed for both outpatient and inpatient settings. Many patients, regardless of the form and severity of the coronavirus infection, suffer from a range of symptoms for weeks or even months that reduce their quality of life. Therefore, the diagnostics of complicated course of community-acquired pneumonia of viral etiology (COVID-19) via using computed tomography (CT) of the chest becomes relevant.

OBJECT. To diagnose a complicated course of community-acquired pneumonia of viral etiology (COVID-19) according to CT of the chest.

MATERIALS AND METHODS. A group of patients referred for treatment to the National Institute of Phthisiology and Pulmonology named after F.G. Yanovsky of the NAMS of Ukraine with complications of pneumonia from other medical institutions where they were treated for community-acquired pneumonia of viral etiology (COVID-19) 2-3 months ago. Chest CT of 20 patients (12 men and 8 women aged from 24 to 66 years) were analyzed. All patients complained of shortness of breath, cough, lack of significant improvement in general condition after discharge from the hospital.

RESULTS AND DISCUSSION. Typical complications of community-acquired pneumonia of viral etiology (COVID-19) were determined by CT: 10 % of patients showed gradual progression of viral pneumonia (numerous opacities were identified as “ground glass”, consolidation and the “crazy paving” symptom); 15 % – signs of thrombosis of the pulmonary arteries branches; 25 % – exacerbation of chronic obstructive pulmonary disease with preservation of signs of bilateral polysegmental viral pneumonia; 20 % – exacerbation of asthma with signs of bilateral polysegmental viral pneumonia in the regression phase; 30 % – bullous pulmonary emphysema (“vanishing lung syndrome”).

CONCLUSIONS. Typical complications of pneumonia of viral etiology (COVID-19) indicate that the inflammatory process does not end after inpatient treatment and the presence of a negative PCR test, and patients need further careful monitoring and correction of treatment. CT is an objective and most informative diagnostic method of complicated community-acquired pneumonia of viral etiology (COVID-19).

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