CLINICAL FEATURES OF SEVERE COVID-19 WITH LETHAL OUTCOME IN VOLYN REGION RESIDENTS

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Abstract

On March, 11 2020 WHO declared novel SARS-CoV-2 outbreak as pandemic (Coronavirus disease, COVID-19), which took away almost 4 million lives of our planet population. Management of severe COVID-19 represents the most challenging problem being associated with high level of mortality.

Aim of the study: to assess the clinical features of severe COVID-19, demographic factors, laboratory markers and lung pathology findings associated with severe course and lethal outcome.

Material and methods. In retrospective cohort survey we recruited 171 adult patients (age > 18 years) with severe COVID-19, admitted to 2nd infection disease department of municipal hospital "Volyn regional clinical hospital" (CE "Voklen"). 101 patients were discharged after completion of treatment. 70 patients died. In two groups (discharged or deceased) we analyzed demographic data, clinical diagnosis, comorbidity and complications, duration of disease and hospital stay, body temperature at admission, blood oxygen saturation at admission and during the course of treatment, major laboratory parameters (WBC, neutrophils, lymphocytes, thrombocytes, RBC, neutrophil/lymphocyte ration (NLR), C-RP, AST, ALT, creatinine, total protein, blood glucose and procalcitonin). Almost all patients were tested for D-dimer, lupus anticoagulant (LA) and blood gases. In part of deceased patients (n=10) an autopsy was performed with subsequent lung tissue histological examination.

Results and discussion. Acute respiratory distress syndrome (ARDS) and severe respiratory failure were the major cause of death from COVID-19. Concomitant conditions, which worsened the clinical course and prognosis: renal failure, thrombotic events, in part associated with elevation of D-dimer and LA, neoplasm, cardiovascular conditions and diabetes mellitus. Female sex and younger age were the demographic factors of favorable outcome. Leukocytosis, high NLR, increased creatinine (as an indicator of renal failure), hypoproteinemia and high serum glucose level were the laboratory markers of unfavorable prognosis. LA, associated with severe respiratory failure, stroke and vascular thrombosis, were found positive in 40 % of patients with severe COVID-19.

Key words: COVID-19, severe course, mortality, prognosis factors.

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