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A study of hematological disease prevalence in covid-19 pandemic: a single center experience

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Objective: In the present study we aimed to investigate the prevalence of hematological conditions and patient characteristics among a patient population diagnosed with the COVID-19 infection at our hospital during the COVID-19 pandemic.

Methodology: Our study enrolled patients older than 18 years of age who were diagnosed with COVID-19 infection by physical examination and various studies and managed as inpatients at our hospital designated as a pandemic hospital within a two-month period between 15 March 2020 and 15 May 2020. The patients’ age and sex distributions, contact status, comorbidities, primary hematological disorder, polymerase chain reaction (PCR) smear tests, computerized tomographic findings, need for intensive care, treatments regimens, total length of clinic stay, and rates of discharge and mortality were retrospectively reviewed.

Results: We reviewed the medical records of a total of 1928 patients who were admitted to pandemic clinics with the diagnosis of PCR-positive COVID-19 or suspected COVID-19 during the prespecified two-month period. Among these patients, 963 (49.9%) were male, and 965 (50.1%) were female. Their mean age was 51.3 ± 21.4 (min-max: 18–99) years. Eleven (0.57%) patients had a hematological condition and were thus consulted with the hematology department. They consisted of 3 females and 8 males with a mean age of 64.7 ± 18.7 (min-max: 22–89) years. A review of their diagnoses identified 4 patients with chronic lymphocytic leukemia (CLL), 2 patients with acute myeloid leukemia (AML), 1 patient myelodysplastic syndrome (MDS), 1 patient with non-Hodgkin lymphoma (NHL), 1 patient with chronic immune thrombocytopenia (ITP), 1 patient with polycytemia vera (PV), and 1 patient with thalassemia intermedia. While 4 patients had not taken any treatment for a hematological condition prior to the COVID-19 infection, 2 patients had taken azacitidine, 1 patient hydroxyurea, 1 patient chlorambucil, 1 patient R-FC (rituximab- fludarabine, cyclophosphamide), 1 patient R-Benda (rituximab-bendamustine), and 1 patient CHOP (Cyclophosphamide, Vincristine, Doxorubicin, Prednisolone). Three patients had a history of contact with COVID-19. While all patients had pulmonary involvement on a thoracic computerized tomography, three of them had mild involvement. Four patients needed intensive care. Seven (64%) patients had at least one comorbidity such as diabetes, hypertension, or coronary artery disease. All patients were treated with hydroxychloroquine, azithromycin, and enoxaparine. Four patients showing signs of disease progression were administered favipirapir while a patient received IVIG and another one received plasma therapy. The mean length of hospital stay was 12.7 days (min–max 2–27). Three of 11 patients died.

Conclusion: COVID-19 and the pandemic it has caused, every detail of which we have still not understood, is a significant global problem from every aspect. Alongside of particularly the elderly, the patient group with hematological conditions that are immunosuppressed due to conditions themselves or their treatment regimens are at particular risk of infection by the COVID-19 pandemic. Our study have shown that the prevalence of hematological conditions is about 0.5% among patients infected by COVID-19. Patients with hematological conditions taking utmost care of isolation measures, protecting themselves, having strong family support, and being accustomed to the isolation process make a significant contribution to such a low prevalence.