



OUTCOME OF COVID-19 AMONG PATIENTS WITH MULTIPLE MYELOMA AT THE ARMENIAN HEMATOLOGY CENTER

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BACKGROUND

The COVID-19 pandemic, caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), represents a world-wide public health crisis. Due to Covid – 19 and its complications in Armenia over the past 2 years, more than 200 thousand patients have been registered, of which 4 000 are deaths. The effect of COVID-19 on patients with multiple myeloma (MM), the second most common hematological malignancy, is of particularly great concern due to immunosuppression associated with the disease, and at this time remains incompletely understood. MM primarily affects the elderly and is typically diagnosed between the ages of 65-74 years and characterized by severe bone, blood and renal complications, impacting therapy choices and quality of life.

The aim of the current study was the analysis of the characteristics of COVID-19 infection and serological response in MM patients in Armenia for the period of 2020-2021.

MATERIALS & METHODS

We performed a retrospective study on a cohort of 125 patients with MM, 42 in which developed COVID-19 between March 1, 2020, and May 30, 2021. We report epidemiological, clinical, and laboratory characteristics including the persistence of viral detection by PCR and anti-SARS-CoV-2 antibody testing, treatments initiated, and outcomes.

RESULTS AND DISCUSSION

Of the 42 (33.6%) patients diagnosed with COVID-19, 19 (45.2%) were hospitalized and 23 (66.4%) were managed at home. The median age was 60 years; 40.5% of patients were male and 59.5% female. Hypertension (39%), hyperlipidemia (42%), obesity (33%), diabetes mellitus (18%), chronic kidney disease (14%), and lung disease (18%) were the most common comorbidities. In the total cohort, 8 patients (19%) died.

The most common initial symptoms were fever (63%), cough (50%), dyspnea (43%), and hypoxemia (28%).

Diarrhea, skin, joint, or neurological complains were uncommon. Clinical status was considered as mild in 24 (57%), severe in 10 (24%), or critical in 8 (19%), with lung infiltrates reported on imaging in 12 (29%) and multiple organ failure in 4 (10%). Older age, male sex, cardiovascular risk, and patients with noncomplete remission were significantly ($p < 0.02$) associated with hospitalization.

Among hospitalized patients, laboratory findings demonstrated elevation of traditional inflammatory markers (CRP, ferritin, D-dimer) and a significant ($p < 0.01$) association between elevated inflammatory markers, severe hypogammaglobulinemia and mortality. Hospitalization was required in 16 patients for a median of 10-12 days (range, 3–32), 2 needing mechanical ventilation. Most patients required O₂ administration, in addition to antibiotics and hydroxychloroquine.

Seventy-one percent of patients developed antibodies to SARS-CoV-2 at a median of 33 days after initial diagnosis. The median time to PCR negativity was 46 (range 19–68) days from initial positive PCR.

SUMMARY

Our limited experience of COVID-19 emphasizes the severity of this condition in MM patients, with a high mortality incidence (19%). However, based on these preliminary data, in a country where 64 new MM are diagnosed each year and where 222 000 cases of COVID-19 have been reported so far, this complication remains very rare. Age, comorbidities and disease status may be relevant. Further investigations are mandatory in order to assess the impact of this new viral infection on MM patients.

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