

Evaluation of the patients with hematologic malignancies and coronavirus disease 2019 (COVID-19): A single center retrospective study

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April 05, 2024

Abstract

Introduction: One of the most important risk factor for COVID-19 infection is malignancy especially hematologic ones. Focusing on the clinical, radiological and laboratory characteristics of COVID-19 infected cancer patients remain largely important. **Materials and Methods:** In this retrospective study, we analyzed the data of 194 patients with hematologic malignancy and COVID-19 pneumonia. We categorized patients based on the type of the hematologic malignancy and phase of the treatment. All associated and important laboratory data including complete blood count, pro-inflammatory markers, and computerized tomography scan findings were reported to assess the risk factors associated mortality. **Results:** From January 2020 to March 2021, a total of 194 COVID-19 infected patients with hematologic malignancies were included in different phase of treatments. Median age was 44 (15-81) years. 135 of the cases were male and 59 of the cases were female. Acute myeloid leukemia was the most frequent cancer type (43.8%). A total of 119 patients had severe COVID-19 and 61 patients were admitted to intensive care unit. A total of 92 deaths occurred among all cases for an overall case fatality rate of 47%. Male gender ($P=0.03$), pre-induction and induction phase of the treatment ($P<0.001$), Intensive care unit admission ($P<0.001$), low level of oxygen saturation at the onset of COVID-19 disease ($P<0.001$) and high level of fibrinogen ($P=0.002$) were associated with COVID-19 mortality among patients with hematologic malignancies. **Conclusion:** The results of this study showed male gender, pre-induction and induction phase of the treatment, Intensive care admission, low levels of oxygen saturation at the onset of COVID-19 disease, RH positivity and higher fibrinogen level were associated with the risk of death. Identification of factors potentially associated with mortality for cancer patients are important in assessment strategy in these high risk group.

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