

Changes in mortality associated with different hematologic malignancies during the pandemic in the United States

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Patients with hematologic malignancies are at increased risk of adverse COVID-19 outcomes; nonetheless, only sparse population-based data are available on mortality related to hematologic cancers during the pandemic. Number of deaths and age-standardized mortality rates for specific hematologic malignancies selected either as the underlying cause of death (UCOD), or mentioned in death certificates (multiple causes of death-MCOD) were extracted from the US National Center for Health Statistics, CDC WONDER Online Database. Joinpoint analysis was applied to identify changes in mortality trends from 1999 to 2021, and to estimate the annual percent change with 95% Confidence Intervals (CI) across time segments. Among the most common malignancies, chronic lymphocytic leukemia showed marked peaks in the monthly number of deaths attributed to COVID-19 during epidemic waves; acute myeloid leukemia showed the least variation, and non-Hodgkin lymphoma and multiple myeloma were characterized by an intermediate pattern. Age-standardized death rates relying solely on the UCOD did not show significant variations during pandemic years. By contrast, rates based on MCOD increased by 14.0% (CI, 10.2-17.9%) per year for chronic lymphocytic leukemia, by 5.1% (CI, 3.1-7.2%) for non-Hodgkin lymphoma and by 3.2% (CI, 0.3-6.1%) per year for multiple myeloma. Surveillance of mortality based on MCOD is warranted to accurately measure the impact of the COVID-19 pandemic and of other epidemics, including seasonal flu, on patients with hematologic malignancies, and to assess the effects of vaccination campaigns and other preventive measures.

Keywords: COVID-19; hematologic malignancies; multiple causes of death.

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