

Patients with lymphoma treated with B-cell-depleting therapies may have worse outcomes from COVID-19 infection

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Among patients with lymphoma admitted to the hospital for severe COVID-19, those treated with B-cell-depleting therapies within the previous 12 months had an increased risk of prolonged hospital stay and death, according to results presented at the [AACR Virtual Meeting: COVID-19 and Cancer](#), held Feb. 3-5.

"Patients with lymphoma may develop immune deficiency due to particular features of their disease or due to their [treatment regimen](#), which can lead to increased incidence and increased severity of infections," said study senior author Caroline Besson, MD, Ph.D., a hematologist at Centre Hospitalier de Versailles and Université de Versailles Saint-Quentin-en-Yvelines (UVSQ) in France. "In the context of the COVID-19 pandemic, it appeared necessary to analyze the clinical course of this infection in our [patients](#) and to characterize the determinants of worse outcomes."

Patients with lymphoma are often treated with B-

cell-depleting antibodies, such as rituximab (Rituxan) or obinutuzumab (Gazyva). These drugs target CD20, a protein found on the surface of B cells. "More than 20 years ago, anti-CD20 [monoclonal antibodies](#) were shown to improve survival among patients with B-cell non-Hodgkin lymphoma, the most frequent subtype of the disease," said presenting author Sylvain Lamure, MD, a hematologist at Centre Hospitalier Universitaire (CHU) Montpellier in France. "However, these treatments induce rapid B-cell depletion, which alters the generation of antibody responses to new pathogens, which may impact the clinical course of COVID-19," he added.

To better elucidate factors associated with worse outcomes from COVID-19 in this patient population, the researchers evaluated data from 111 patients with lymphoma who were admitted to one of 16 French hospitals for severe COVID-19 during March and April of 2020. The researchers specifically focused on identifying factors associated with prolonged [hospital stay](#) (longer than 30 days) and death from any cause.

Of the 111 patients, 63 (57 percent) had previously received B-cell-depleting therapy; 29 percent of all patients required a prolonged [hospital](#) stay due to severe COVID-19 symptoms. After a median follow-up of 191 days, the six-month overall survival in this patient population was 69 percent.

After adjusting for age, comorbidities, and the presence of relapsed/refractory disease, the authors found that receipt of B-cell-depleting treatment within the previous 12 months nearly doubled the likelihood of a prolonged hospital stay and more than doubled the risk of death. Other factors that were significantly associated with decreased overall survival and prolonged hospital stay were having relapsed/refractory lymphoma or

being at least 70 years of age.

"Our findings regarding the impact of anti-CD20 therapy on the course of COVID-19 can contribute to the guidelines for managing patients with [lymphoma](#) during the pandemic," said Besson. "Our results also

highlight the need for specific therapies for patients with COVID-19 who are B-cell depleted, and for the evaluation of the efficacy and timing of vaccination in this particular population," she said.

"Patients who recently received B-cell-depleting therapies and have COVID-19 should refer to their physician and should be closely monitored," Lamure added.

Limitations of this study include its retrospective nature.

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