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# HIGH INCIDENCE OF PROLONGED COVID-19 AMONG PATIENTS WITH LYMPHOMA TREATED WITH B-CELL DEPLETING IMMUNOTHERAPY

Topic: 19. Aggressive Non-Hodgkin lymphoma - Clinical

Keywords: Clinical outcome, COVID-19, Lymphoma

Rémy Duléry[1], Sylvain Lamure[2], Marc Delord[3], Roberta Di Blasi[1], Adrien Chauchet[4], Thomas Hueso[5], Cédric Rossi[6], Bernard Drenou[7], Bénédicte Deau-Fischer[1], Sandra Malak[8], Pierre Feugier[9], Nicolas Noël[10], Sylvain Choquet[1], Serge Bologna[11], Bertrand Joly[12], Laure Philippe[13], Catherine Thieblemont[1], Caroline Besson[14, 15]

[1] APHP, Paris, France
[2] CHU Montpellier, Montpellier, France
[3] CH Versailles, Le Chesnay, France
[4] CH Besançon, Besançon, France
[5] Gustave Roussy, Villejuif, France
[6] chu dijon, Dijon, France
[7] ch-mulhouse, Mulhouse, France
[8] Curie, Saint Cloud, France
[9] CHRU Nancy, Nancy, France
[10] APHP, Le Kremlin Bicetre, France
[11] Centre d'Oncologie de Gentilly, Nancy, France
[12] Centre Hospitalier Sud Francilien, Corbeil, France
[13] Centre Hospitalier d'Annecy, Annecy, France
[14] UVSQ, Le Chesnay, France
[15] CH de Versailles, Le Chesnay, France

**Background:**

Treatment of B-lineage lymphoma with B-cell depleting immunotherapy causes B-cell aplasia and impairs immune response. Case studies have reported patients treated with anti-CD20 therapy who suffered from persistent Covid-19.

**Aims:** We aimed to assess the incidence, risk factors and long-term outcomes of persistent Covid-19 in patients with lymphoma.

**Methods:**

This retrospective multicentric study was conducted in 16 French hospitals. All adult patients with lymphoma who were admitted for Covid-19 in March and April 2020 were included. Persistent Covid-19 was defined as persisting severe Covid-19 symptoms requiring in-hospital stay for >30 days. Patients who re-experienced severe Covid-19 symptoms after initial improvement, requiring repeated hospitalizations for a total in-hospital length of stay >30 days were added to the persistent Covid-19 cases.

**Results:**

One hundred eleven patients were included. Thirty days after admission for Covid-19, 24 patients had died, 55 had been definitively discharged from hospital, 31 were still hospitalized and 1 was later rehospitalized for Covid-19 recurrence. The incidence of persistent Covid-19 was 32/111 (29%). Patients with persistent Covid-19 had a median age of 64 years (range, 43-87) and 63% were male. Twenty-two patients (69%) had at least one significant comorbidity. None of the patients with T-cell (n=8) lymphoma or classical Hodgkin's disease (n=8) experienced persistent Covid-19.

In the 32 patients with persistent Covid-19, the median time between first admission and final discharge was 58 days (range, 31-235) and the median duration of Covid-19 symptoms was 83 days (range, 32-237). Eight patients

received corticosteroids and 9 convalescent plasma: all patients recovered from their symptoms, except one. Overall, 9 patients with persistent Covid-19 died (27%).

After a median follow-up of 191 days (range, 3-260), the 6-month overall survival was 69% (95% CI 60-78%) for the whole cohort. In multivariate analysis, administration of anti-CD20 monoclonal antibody within 12 months before admission to hospital for Covid-19 was both associated with decreased overall survival (HR 2.13, 95% CI 1.03-4.44, p = 0.043) and prolonged in-hospital stay (HR 1.97, 95% CI 1.24-3.13, p = 0.004). The two other significant factors associated with decreased overall survival and prolonged in-hospital stay : age ≥ 70 years and refractory or relapsed lymphoma.

**Image:**

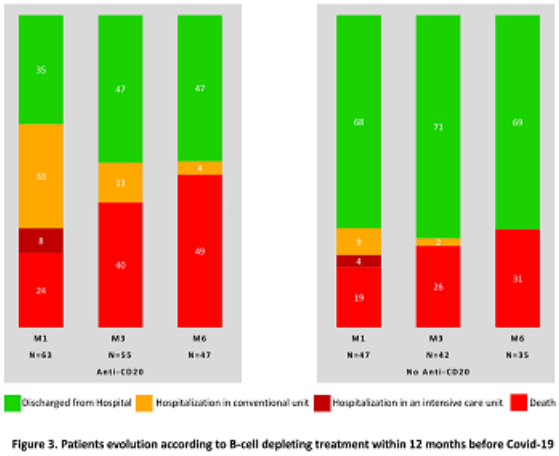


Figure 3. Patients evolution according to B-cell depleting treatment within 12 months before Covid-19

**Summary/Conclusion:** Patients with B-cell non-Hodgkin lymphoma hospitalized for Covid-19 have a high incidence of prolonged evolution of SARS-CoV-2 infection. Administration of anti-CD20 therapy within the last 12 months is one of the main risk factors for longer in-hospital stay and death of Covid-19. The risk of persistent Covid-19 was also higher in patients older than 70 years or with refractory or relapsed disease. These findings may contribute to guide the management of lymphoma patients during the Covid-19 pandemic.

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