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Global Impact of COVID-19 on Lymphoma Patients and Emerging Clinical Management

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Background

The COVID-19 pandemic has dramatically impacted the health risk and management of lymphoma patients. Reports on the impact of COVID-19 on specific lymphoma subtypes are limited however, more severe COVID-19 complications and higher mortality rates have been correlated[1-5]. As such, clinicians are faced with the challenge of how to best manage lymphoma treatments and immune interactions with the virus.

Aim

To provide a global perspective on COVID-19-related pathophysiology, mortality, malignancy management and screening in patients with various subtypes of lymphoma, with a focus on non-Hodgkin lymphoma (NHL).

Method

A review of COVID-19, SARS-CoV-2 infection and lymphoma literature was performed via the PubMed database, ending on 02 February 2022. Government websites across the United Kingdom, Europe, United States, Australia and Switzerland were also reviewed.

Results

Patients with lymphoma were found to be high-risk with increased vulnerability to COVID-19, resulting in prolonged and severe infection, neutropenia, lymphopenia and increased mortality rates up to >30% in some studies.
A lack of humoral adaptive immunity profoundly impacts COVID-19 virulence with increased mortality seen in aggressive NHL subtypes compared to indolent forms.
Correlation between severe COVID-19 infection and increased mortality rates occurred in lymphoma patients undergoing active treatment of specific chemotherapy and immunotherapy. Limited data were available on mortality rates in specific NHL subtypes, especially with regard to severe cytokine release resulting in pulmonary failure.

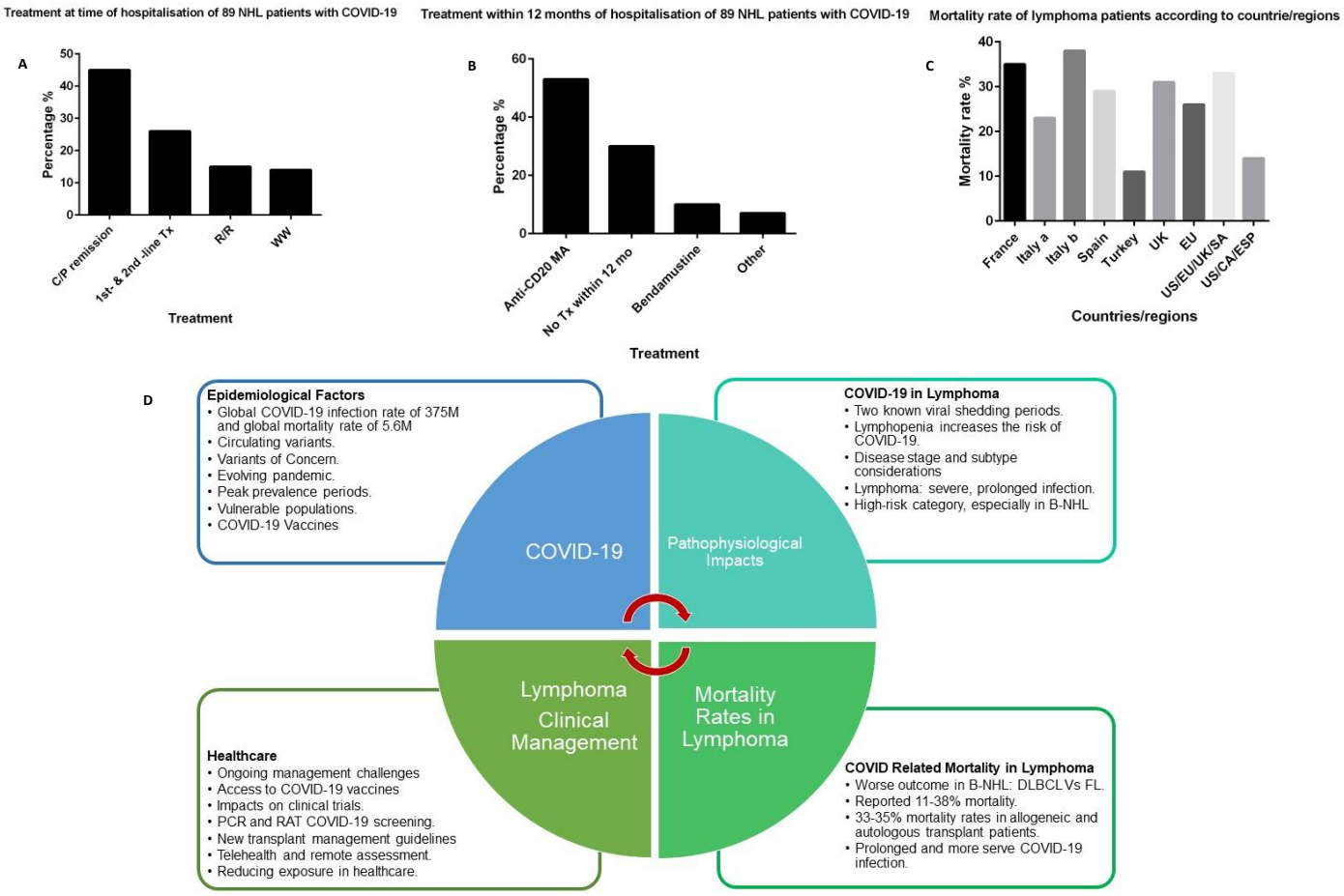

Figure 1: A) Mortality associated with stage of lymphoma treatment, **B)** Mortality associated with the type of lymphoma treatment, **C)** Mortality rate according to country/region, **D)** Summary of global impacts of COVID-19 on lymphoma and treatment management[1-5].

Conclusion

Limited understanding of the impact of COVID-19 on specific aggressive and indolent lymphoma subtypes indicates further studies are required. In particular the association of severe cytokine release and pulmonary failure. The emergence of new variants with increased virulence, transmission and reduced effectiveness of vaccines, continues to pose an increased risk for lymphoma patients who are actively undergoing treatment.

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