COVID-19 INFECTION OUTCOME IN A SUBGROUP OF PATIENTS WITH UNMUTATED IGHV1-69 CHRONIC LYMPHOCYTIC LEUKEMIA: A SINGLE-CENTER EXPERIENCE

Poster Number: CLL-105

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Introduction

Context: Since the onset of the COVID-19 pandemic, complications of this disease among vulnerable populations have been a primary concern for health systems. Chronic lymphocytic leukemia (CLL) is characterized by variable clinical courses among patients with distinct genetic backgrounds, often leading to a compromised immune system; hence, these patients were seriously affected by this pandemic(1,2).

Objectives

Evaluation of COVID-19 infection outcomes in a subgroup of patients with unmutated IGHV1-69 CLL.

Design and Setting

This was a retrospective study comprising 35 patients with CLL, diagnosed and followed at the University Clinic for Hematology in Skopje, Macedonia, in the period between January 2012 and January 2022.

Patients

All the patients were evaluated for traditional clinical and laboratory prognostic factors and newer prognostic factors, including IGHV mutation status and CLL prognostic and predictive genetic abnormalities. Mutational status and genetics were analyzed using reverse-transcriptase polymerase chain reaction and sequencing methodology.

Results

In our study, there was a male predominance, with 65.7% of patients being male. The majority of patients had Binet stage B (57.1%)(Fig.1). According to genetic structure, the most frequently expressed D gene was 3-16 in 42.8% of patients(Fig.2), and J genes 3-15 and 6-15 were present in 42.8% of patients(Fig.3). Most of the patients were treated with obinutuzumab (Ob)-based therapy, and 68.5% of patients received Ob + chlorambucil(Fig.4). Infection with COVID-19 was registered in 69% of patients; 44.8% of patients vaccinated against COVID-19 had a fatal outcome, and the overall fatal outcome rate was 42.8(Fig.5,6).

Conclusion

In this retrospective study on COVID-19 in patients with unmutated IGHV1-69 CLL, 42.8% had a fatal outcome. Risk factors associated with poorer outcomes were identified.

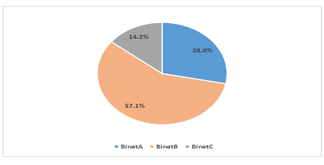


Figure 1. Distribution of patients according to Binet staging system.

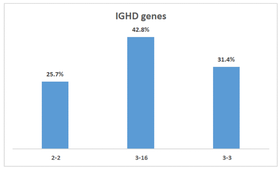


Figure 2. Distribution of IGHD genes.

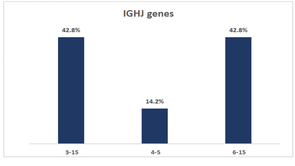


Figure 3. Distribution of IGHJ genes

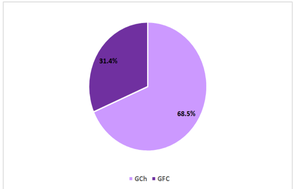


Figure 4. Distribution of patients according to therapy that was administered at the time of Covid 19 infection.

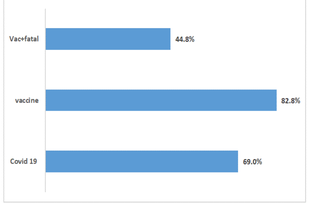


Figure 5. Distribution of patients according to Covid 19 infection, vaccination and fatal outcome.

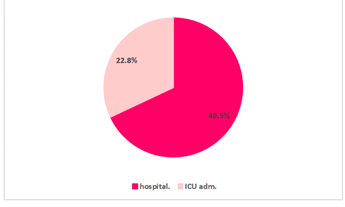


Figure 6. Distribution of patients according need for hospitalization and ICU admission because of Covid 19 infection

References

1.Roeker LE, Eyre TA, Thompson MC, Lamanna N, Coltof A,Davids MS et al (2021) COVID-19 in patients with CLL: improved survival outcomes and update on management strategies. Blood: blood.2021011841. https://doi.org/10.1182/blood.2021011841

2.Akbarzadeh MA, Vaez-Gharamaleki Y, Jahanshahlou F, Bavil AG, Hamzehzadeh S, Seifimansour S, Rahimi-Mamaghani A, Hosseini MS. Outcomes of COVID-19 infection in patients with chronic lymphocytic leukemia: a systematic review and meta-analysis. Rev Assoc Med Bras (1992). 2024 Aug 16;70(8):e20240322. doi: 10.1590/1806-9282.20240322. PMID: 39166680; PMCID: PMC11329259.