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POSTER ABSTRACTS

627.AGGRESSIVE LYMPHOMAS: CLINICAL AND EPIDEMIOLOGICAL

Baseline Immunoglobulin G and Immune Function in Lymphoma: A Retrospective Analysis

Christopher Grant, MD[1], *Danielle Brazel, MD*[2], *Lauren C. Pinter-Brown*[3]

[1] Medicine, University of California, Irvine Medical Center, Orange, CA
[2] Scripps, La Jolla
[3] Chao Family Comprehensive Cancer Center, University of California, Irvine, Orange, CA

Introduction: Non-Hodgkin's lymphoma (NHL) encompasses a diverse group of lymphoma subtypes with a wide range in disease course. Previous studies show that hypogammaglobulinemia in treatment-naïve patients is associated with poorer survival in high grade B-cell non-Hodgkin's lymphomas, though data is lacking on how this applies across all B-cell lymphoid malignancies. We conducted a retrospective study of immunoglobulin levels and clinical outcomes including survival, hospitalization, and infection rates in patients diagnosed with B-cell non-Hodgkin lymphomas of all grades at our institution.

Methods: Patient data was collected from January 2010 to June 2022. Two-hundred twenty-three adults (aged > 18 years) with available pre-treatment IgG levels were selected, with hypogammaglobulinemia defined as IgG< 500 mg/mL. For this analysis, DLBCL (n=90), Primary CNS (n=5), and Burkitt's lymphoma (n=1) was classified as high-grade, while CLL (n=52), mantle cell (n=20), marginal zone (n=25), follicular (n=21), and lymphoplasmacytic lymphomas (n=5) as low-grade. Baseline clinical, staging, and laboratory information was collected including hospital admissions, date of death, and number of infections. Preliminary results for overall survival, 3-year survival and 5-year survival were also analyzed. Multivariate logistic models were used to predict outcomes dichotomized for baseline IGG and high/low grade cancers. Kaplan-Meier estimates and Cox model were performed to analyze the overall survival data.

Results: The incidence of pre-treatment hypogammaglobulinemia was 47% in the high-grade B-cell lymphoma cohort and 57% the low-grade B-cell lymphoma cohort (p=.9371). Across all NHL subtypes, individuals with baseline IgG< 500 showed an increased rate of hospitalization (4.453, CI: 1.955-10.54, p= 0.0005) and higher mortality (3.325, CI:1.258, 8.491, p= 0.013), yet no association in number of infections when compared with those with IgG>500. There was no statistical difference in patients' hospitalization rate when they were treated with IVIG only, rituximab only, or a combination (p=.141792). Additionally, there was no statistically significant correlation with COVID infections when evaluating grade of lymphoma (p=.8527) or IgG level (p=.6535). There was no statistically significant difference in individuals who were alive after three years and five years in those with baseline IgG<500.

Discussion: Our study is the first to analyze incidence of hypogammaglobulinemia at time of diagnosis of NHL as a potential biomarker of interest for future outcomes including hospitalization and infection. These findings demonstrate an association between hypogammaglobulinemia when comparing the rate of hospitalization and mortality across the spectrum of B-cell NHL. This effect was further amplified in patients with aggressive B-cell lymphoma. Given the common use of monoclonal antibodies to treat B cell lymphomas of all subtypes and the known risk of hypogammaglobulinemia from these treatments and the common finding of hypogammaglobulinemia at diagnosis of B cell NHL, pretreatment screening of IgG levels may be important to identify patients at risk for infection, hospitalization and death. Further clinical equipoise exists requiring a randomized clinical trial to indicate the use as a prognostic factor for infection, hospitalization, and mortality.

Disclosures No relevant conflicts of interest to declare.