HemaSphere

EHA EUROPEAN HEMATOLOGY ASSOCIATION

P1733 NON-HEMATOLOGICAL MALIGNANCIES IN IDIOPATHIC MULTICENTRIC CASTLEMAN DISEASE PATIENTS: A MATCHED COHORT ANALYSIS USING A HEALTH CLAIMS-BASED DATASET

Topic: 35. Quality of life, palliative care, ethics and health economics

Sudipto Mukherjee[1], Karan Kanhai[2], David Kauffman[3], Rabecka Martin[4], Jeremy Paige[3], Anirvan Ghosh[3], Hannah Kannan[3], Francis Shupo[2], David Fajgenbaum[5]

[1] Department of Hematology and Medical Oncology, Taussig Cancer Institute, Cleveland Clinic, Cleveland, United States;[2] EUSA Pharma, Hemel Hempstead, United Kingdom;[3] EVERSANA, Milwaukee, United States;[4] EUSA Pharma, Burlington, United States;[5] Department of Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, United States

Background: Idiopathic multicentric Castleman disease (iMCD) is a rare lymphoproliferative disorder characterized by a hyperinflammatory syndrome driven primarily by elevated cytokines, particularly interleukin-6 (IL-6). Numerous studies provide evidence that inflammation increases the risk of several cancers. Elevated inflammatory mediators such as cytokines and chemokines can alter the cellular micromilieu and promote tumorigenesis. A systematic literature review of iMCD reported a three-fold increased prevalence of malignancy in iMCD patients (19%) compared to age-matched controls (6%). However, emergence and prevalence of malignancies in iMCD warrants further investigation to inform evidence-based management guidelines.

Aims: The primary objective of this study was to evaluate the odds of developing non-hematological malignancies and cancer types in iMCD patients.

Methods: An iMCD cohort was identified using an administrative health claims dataset that enrolled 30.7 million US patients between January 1, 2017 and December 2, 2020. This updated analysis followed a similar methodology to our previously published work (*Mukherjee et al,* Blood Advances 2022). iMCD patients were identified by CD-specific ICD-10 diagnosis code (D47.Z2), negative HHV-8 and HIV status, and diagnostic or laboratory claims for ≥2 minor criteria required to diagnose iMCD. We conducted a matched cohort analysis where odds of developing non-hematological malignancies (breast, carcinoma of unknown primary, colon, head and neck, lung, prostate, skin, and thyroid cancers) in iMCD patients, were compared to a non-iMCD cohort. iMCD and non-iMCD cohorts were matched (1:50) by age group (0-17, 18-44, 45-54, 55-64, >65 years), sex, insurance type, history in database, and region. Malignancies were also identified by ICD-10 diagnosis codes. We performed subgroup analyses by three age groups - 0-44, 45-60, and >60 years.

Results: We identified 271 individuals likely to have iMCD (mean age: 51.8 years; 59.4% female), including 191 patients previously reported (ASH, 2021). We found significantly higher odds of non-hematological malignancies (OR= 2.8, 95% CI= 2.0, 3.9) in iMCD patients (18%) compared to matched non-iMCD patients (7%). Among non-hematological malignancies, there was 36 times higher likelihood of carcinoma of unknown primary (OR= 36.0, 95% CI= 17.3, 75.1), 10 times higher likelihood of lung cancer (OR= 9.8, 95% CI= 5.4, 17.9), 6 times higher likelihood of thyroid cancer (OR= 6.1, 95% CI= 2.7, 13.6), 6 times higher likelihood of head and neck cancer (OR= 6.0, 95% CI= 1.4, 26.3), and 3 times higher likelihood of colon cancer (OR 3.2, 95%CI= 1.4,7.3) in iMCD patients compared to non-iMCD matched patients. Odds of other solid tumors such as breast, skin, and prostate were not significantly elevated in iMCD patients. When analyzed by age groups, we observed a significantly higher likelihood of developing non-hematological malignancies in iMCD patients compared to non-iMCD matched patients across all three age cohorts.

Summary/Conclusion: We report significantly higher odds of having non-hematological malignancies in iMCD patients when compared to the non-iMCD cohort. As iMCD is a challenging diagnosis and claims data can include incorrect codes, it is possible that some patients in the iMCD group could have been incorrectly diagnosed or a malignancy incorrectly coded. Further studies are needed to investigate the biological mechanisms of these observed associations,

potential management implications of these findings, and whether IL-6 directed therapies can mitigate these outcomes.