



## The 65th ASH Annual Meeting Abstracts

## ONLINE PUBLICATION ONLY

## 637.MYELODYSPLASTIC SYNDROMES - CLINICAL AND EPIDEMIOLOGICAL

**Survival Outcomes of US Patients Diagnosed with CMML over the Past Two Decades, Analysis from the SEER Database**

Ayrton I Bangolo, MBBS<sup>1</sup>, Shraboni Dey, MBBS<sup>2</sup>, Rohan Mehta, MD<sup>3</sup>, Stacy H. Lee, MD<sup>4</sup>, Amer I Jarri, MD<sup>4</sup>, Simcha I Weissman, DO<sup>4</sup>, Christina Cho, MD<sup>5</sup>

<sup>1</sup>Hackensack Meridian Health/Palisades Medical Center, Edgewater, NJ

<sup>2</sup>Palisades Medical Centre, North Bergen, NY

<sup>3</sup>Jersey Shore University Medical Center, Neptune City, NJ

<sup>4</sup>Hackensack Meridian Health/Palisades Medical Center, North Bergen, NJ

<sup>5</sup>Stem Cell Transplantation and Cellular Therapy Program, John Theurer Cancer Center, Hackensack Meridian Health, Hackensack, NJ

**Background:** CMML is a rare and one of the most aggressive forms of leukemias with hybrid features of myeloproliferative neoplasms (MPN) and myelodysplastic neoplasms/syndromes (MDS). Given its rarity and the fact that CMML was categorized previously as MPN or MDS, the true incidence of CMML is unknown. To the best of our knowledge, the largest and most up to date study addressing the incidence and survival outcomes of patients with CMML in the United States covered a period from 2000 to 2013, with a sample size of 2,238 patients. The aim of this study is to investigate the clinical characteristics, survival outcomes, and independent prognostic factors of patients with CMML over the past two decades with a larger sample size.

**Methods:** A total of 4,124 patients diagnosed with CMML, between 2000 and 2017, were ultimately enrolled in our study by retrieving data from the Surveillance, Epidemiology, and End Results (SEER) database. We analyzed demographics, clinical characteristics, and overall mortality (OM) as well as cancer-specific mortality (CSM) of HSTCL. Variables with a p value <0.01 in the univariate Cox regression were incorporated into the multivariate Cox model to determine the independent prognostic factors, with a hazard ratio (HR) of greater than 1 representing adverse prognostic factors.

**Results:** Our cohort had a male predominance (61.57%). Most patients were diagnosed between the age of 60- and 79-year-old (55.16%) and CMML was least common among patients younger than 40 (1.41%). Non-Hispanic whites (79.03%) were most represented. Univariate cox proportional hazard regression analyses of factors affecting all-cause mortality revealed higher overall mortality among patients 80 and older (HR= 2.68, 95% CI 1.89-3.79, p<0.01) followed by patients aged 60-79 (HR=1.85, 95% CI 1.31-2.62, p<0.01), patients living in nonmetropolitan counties not adjacent to a metropolitan area (HR=1.28, 95% CI 1.11-1.48, p<0.01), widowed patients (HR=1.42, 95% CI 1.30-1.54, p<0.01) and those that underwent chemotherapy (HR=1.20, 95% CI 1.13-1.29, p<0.01). Lower OM was observed in patients with yearly income of \$75,000+ (HR=0.85, 95% CI 0.77-0.94, p<0.01) and those that undergo radiation (HR=0.64, 95% CI 0.47-0.87, p<0.01). CSM was higher among male patients (HR=1.12, 95% CI 1.03-1.22, <0.01), those aged 80 or older (HR=1.90, 95% CI 1.28-2.81, p<0.01), patients living in nonmetropolitan counties not adjacent to a metropolitan area (HR=1.30, 95% CI 1.10-1.54, p<0.01), widowed patients (HR=1.27, 95% CI 1.15-1.41, p<0.01), and those that underwent chemotherapy (HR=1.59, 95% CI 1.47-1.73, p<0.01). Multivariate cox proportional hazard regression analyses of factors affecting OM revealed higher mortality in male patients, those 80+, patients living in counties in metropolitan areas of 250,000 to 1 million persons, single patients, widowed and those that underwent chemotherapy. Lower OM was found in patients with an annual income of \$75,000+. CSM revealed a higher mortality in male patients, those aged 80+, patients living in counties in metropolitan areas of 250,000 to 1 million persons, single patients, widowed and those that underwent chemotherapy.

**Conclusion:** CMML remains a rare and very dismal hematologic condition. In this United States population-based retrospective cohort study using the SEER database, we found that male sex, advanced aged, single, widowed and those that underwent chemotherapy are independent factors of poor prognosis. While one would expect older patients and those that require chemotherapy to have a poor prognosis as they have a baseline poor performance status and present at advanced disease respectively, it remains unclear why widowed/single and male patients are at higher mortality risk. Perhaps, for widowed and single patients, earlier involvement of family members and community support may lower their mortality. This data

paves the way for larger prospective studies addressing factors associated with worse prognosis widowed/single and male patients.

**Disclosures** No relevant conflicts of interest to declare.

<https://doi.org/10.1182/blood-2023-187919>