

Demographic and Clinical Characterization in Younger Patients with Multiple Myeloma

Seshamalini Srinivasan, Yulan Zhang, Jeffrey Morgan
ConvergeHEALTH, Deloitte. Boston, MA

Background & Objective

- Multiple myeloma (MM) is rare in younger patients (< 40 years old at diagnosis), representing <2% of all patients diagnosed with MM.
- Little is known about the disease characteristics and prognosis of these patients.
- There are studies describing the younger MM patient population represented in smaller registries but large-scale characterization from large, nationally representative databases is limited.
- We aim to characterize the demographic and clinical trends in this patient population within the US post diagnosis

Methods

- Patients were identified retrospectively from using administrative claims data from the Komodo Health claims database
- The Komodo Health database contains complete medical and prescription claims information for US payers across all geographic regions
- The study population included patients under 30 years of age at diagnosis with at least one ICD-10 code for Multiple Myeloma (C90.0) between January 1, 2019, and October 31, 2022. The index date was defined as the first MM diagnosis date.
- Demographic characterization included distribution of age at index, gender and race
- Assessed prevalence of clinical codes (i.e., diagnosis, medication and procedure) in a 6 month pre- and post-index period
- Clinical characterization was performed by considering events that increased in prevalence in the 6-month post index period as compared to the pre-index period. We followed this approach to understand the temporal trends after MM diagnosis in this patient population

Figure 1: Demographic characterization

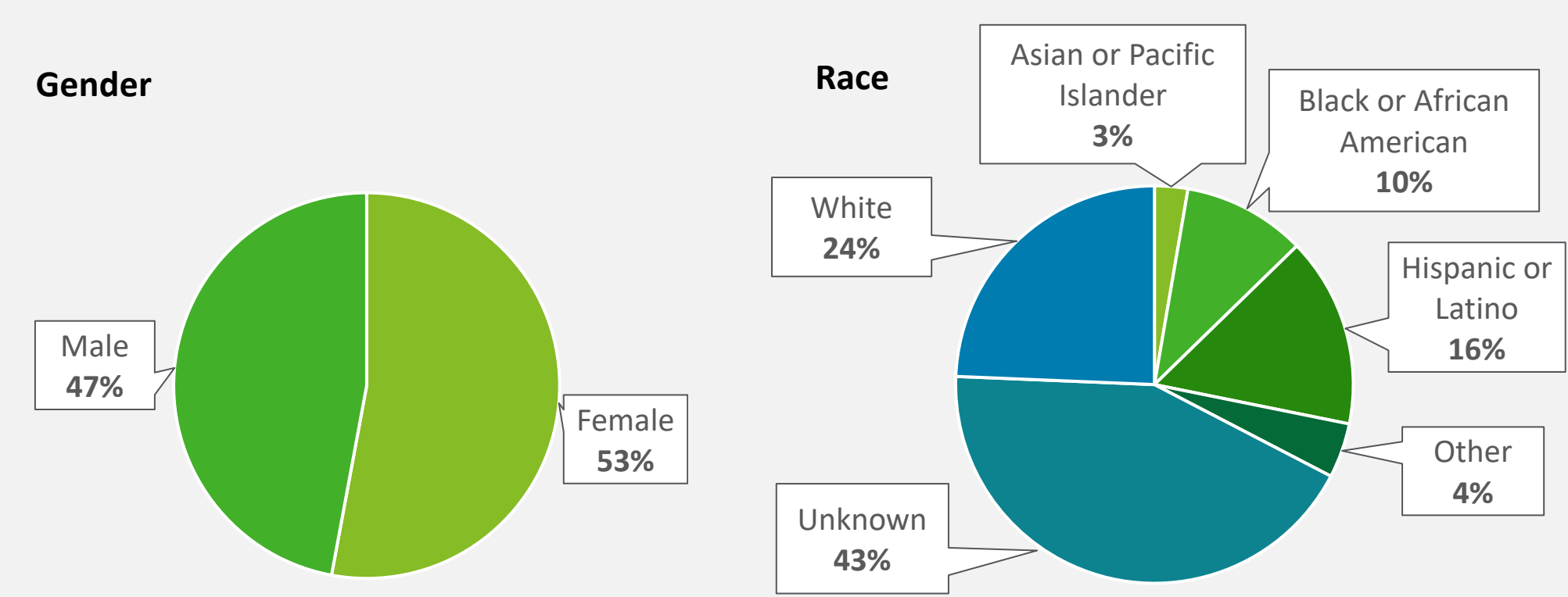


Table 1: Characterization of clinical events pre and post-index

Category	Symptoms	Number of patients in a 6-month period	
		Pre-index	Post-index
Myeloma defining conditions	Anemia	666	964
	Kidney Failure	178	295
	Bone disorders	61	114
	Hypercalcemia	48	107
Other Concomitant conditions	Essential hypertension	340	513
	Tachycardia	389	485
	Hypothyroidism	120	237
	Anxiety	467	565
Treatment patterns	Stem cell transplant	145	330
	Bone marrow transplant	135	283
	Complications of stem cell/bone marrow transplants	60	135
	Ondansetron	542	727
Medication usage	Dexamethasone	308	424
	Bortezomib	9	79

Results

- A cohort of 3417 patients met the inclusion criteria. Of them, 53% were female patients and 47% were male patients (*Figure 1*)
- Age distribution: 28% (0 -17 years), 28% (18-24 years) and 45% (24-30 years)
- Race distribution showed 24% white, 33% minority and 43% unknown (*Figure 1*)
- Several myeloma defining events and other interesting concomitant conditions emerged as most prevalent post index (*Table 1*)
- Several clinical features related to stem cell and bone marrow transplant were more prevalent post diagnosis (*Table 1*)
- Medication trends showed higher usage of dexamethasone and antiemetic drug Ondansetron (*Table 1*)

Discussion & Conclusion

- Several myeloma defining conditions were more prevalent post index i.e., hypercalcemia, anemia, kidney diseases, bone disorders which is consistent with the literature
- The presence of other significant conditions such as hypertension, tachycardia, anxiety etc. offers insights into the prognostic potential of these conditions to understand the likely course of disease outcomes in this patient population.
- Conditions and procedures related to stem cell and bone marrow transplant were more prevalent post index, which might indicate the choice of therapy in this population.
- Additional analyses are planned to better understand how health disparities are driving the disease outcomes in this patient population. We were limited by the availability of these variables, so we have linked additional sources of socioeconomic data to conduct further studies.

References

- Caulier et al., Epidemiological landscape of young patients with multiple myeloma diagnosed before 40 years of age: the French experience. Blood (2021)
- Rajkumar et al., Front-Line Treatment in Younger Patients With Multiple Myeloma. Semin Hematol (2014)