2023 MEDICAL STUDENT SCHOLARS FOR HEALTH EQUITY IN MYELOMA POSTER WALK

July 31, 2023, 5:30 - 6:30 pm
Hyatt Regency New Orleans
Celestin Ballroom E



INTERNATIONAL MYELOMA FOUNDATION

W. MONTAGUE NMA HEALTH Cobb Institute

POSTER INDEX

African American (AA) Patients with High-Risk Myeloma have Worse Outcomes relative to non-AA counterparts

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Multiple Myeloma (MM) is a malignant plasma cell disorder of the elderly. Significant racial disparities in all stages of the disease have been documented. AA have higher incidences with younger onsets and greater mortality compared to their non-AA counterparts. In the last 20 years there have been many therapeutic developments that have increased the live span of patients with MM. However, AA patients do not seem to show the same increase in survival rates. Some of this disparity can be attributed to lack of access to novel therapies, decreased participation in clinical trials, and lack of receipt of stem cell transplant (SCT). However, things like genetics, epigenetics, and comorbidities should be investigated. Using the MMRF CoMMpass gateway, we compared the clinical and genomic characteristics of 828 high-risk AA (N=136) and non-AA (N=692) patients to further understand the biological and genomic differences in these patient populations. We found that AA patients are younger at diagnosis, are less likely to have high-risk mutations (not statistically significant), and less likely to receive triplet therapy. Though there were no differences in SCT eligibility, AA patients were less likely to receive SCT. We found that TP53 mutations and gain (1q) are more common in high-risk non-AA patients, consistent with previous reports, and NRAS mutations seem more common in high-risk AA patients. While the frequency of high-risk mutations was less common among AA patients, the outcomes are worse relative to high-risk non-AA patients. Further elucidation of biology vs access will allow for focused interventions to achieve equity in care.

Association of Race with Rurality on Multiple Myeloma Outcomes: SEER Analysis, 1975-2019

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Although five-year survival rates for multiple myeloma (MM) in the US have continued to steadily improve in recent decades, these advances have not accrued equally to all segments of the population. Sub-groups of patients differentiated by race, socioeconomic status, ethnicity, and geographic location continue to experience inferior survival rates of MM. Little is known about the interacting effects of rural-urban differences and race on the outcomes of patients with MM. The objective of this study is to examine national rural-urban trends in 5-year myeloma-specific survival and overall survival for patients with MM in a diverse sample of racial groups.

Attitude of Myeloma Patients Towards Clinical Trials

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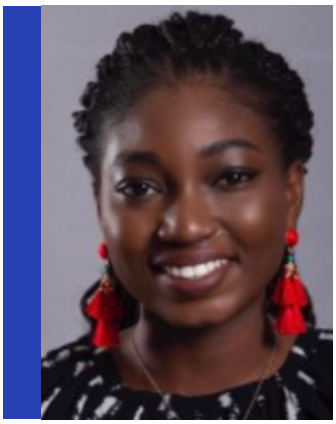

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Multiple myeloma (MM) is a plasma cell neoplasm with varying prevalence across different populations1. Clinical trials are essential for investigating novel treatment strategies in MM and establishing standard treatments and guidelines. However, ensuring diverse patient representation in these trials is crucial to enhance the generalizability of trial findings and improve treatment applicability. Understanding the factors that influence myeloma patients' decisions to participate in clinical trials is important for promoting patient engagement and addressing potential disparities.

The primary objective of this study is to explore myeloma patients' perspectives on clinical trial enrollment and understand the key factors that drive their decision-making process. We aim to investigate patients' attitudes toward clinical trials, with a particular focus on examining how these attitudes may vary across different phases of trials. By gaining insights into patients' viewpoints, we can identify strategies to enhance patient participation and improve the overall effectiveness of clinical trials in multiple myeloma.

By examining the factors that drive patient decision-making and exploring attitudes toward clinical trials, this study aims to contribute to the development of patient-centered approaches that promote equitable access and representation in clinical trials. Ultimately, such efforts will lead to improved patient care, enhanced treatment outcomes, and the advancement of knowledge in the field of multiple myeloma.

Characteristics of Multiple Myeloma in Young Patients under the Age of 45: A Retrospective Cohort Study

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Multiple myeloma is a malignancy characterized by the proliferation of clonal plasma cells in the bone marrow and the production of monoclonal immunoglobulin and/or light chain with end-organ damage. The median age of diagnosis is between 65 to 70, but there is a small portion of patients who are diagnosed before age 40. Previous literature has documented health disparities in multiple myeloma impacting treatment outcomes, but there is limited data on myeloma patients diagnosed before age 40. We retrospectively evaluated a cohort of patients diagnosed with multiple myeloma before age 40 and treated at the University of Maryland Greenebaum Comprehensive Cancer Center between 2010-2020. Pretreatment comorbidities, clinical characteristics, risk factors, and treatment outcomes were collected from a review of the electronic medical records from diagnosis until the last follow-up or death. Patients' on-study characteristics were estimated and compared using Fisher's exact test and t-tests. Overall survival was defined as the time from diagnosis to death from any cause, censored on the date last known alive.

We identified 51 patients with a median age of diagnosis of 34 (25-39) with 59% of patients identifying as non-Hispanic Black and 25% of patients identifying as non-Hispanic White. 47% of our patients had normal cytogenetics. The average M-spike at diagnosis was 2.5 g/dL, with Hispanic patients observed to have a higher average M-spike level of 4.1 g/dL. The median hemoglobin at diagnosis was 10.5 g/dL, and patients with hemoglobin greater than 10g/dL trended towards improved survival compared to patients with hemoglobin less than 10g/dL (p=0.0675). The median overall survival for our patient cohort was 76 months and we did not observe a statistical difference in survival between non-Hispanic White patients with overall survival at 85 months compared to non-Hispanic Black patients at 81 months (p=0.3).

The goal of our study was to evaluate the influence of race on outcomes in patients diagnosed with multiple myeloma before age 40. In our cohort, non-Hispanic Black patients had similar overall survival compared to non-Hispanic White patients. Our study is limited by the small patient number and the nature of being a retrospective single-center study. Patients diagnosed with multiple myeloma at a younger age are a unique population with limited data and a large multicenter prospective study is warranted to further understand the clinical presentation and response to treatment to optimize the treatment of these patients.

Discrepancies in Care: CAR T-Cell Therapy for Multiple Myeloma

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Multiple Myeloma is a malignancy of plasma cells. Though no cure currently exists, there are various treatment options to reduce the burden of disease, including Chimeric Antigen Receptor (CAR) T-Cell therapy. This is an innovative method that shows promising outcomes, yet current clinical data indicates there is a large discrepancy between African Americans and Non-African Americans in terms of both access and outcomes to this therapy. The aim of this study is to determine if there are any differences in outcome of African American patients who receive CAR T-Cell therapy to treat Multiple Myeloma vs their non-African American counterparts. To investigate this theory and determine if any correlations could be identified, the Karmanos Cancer Institute database was screened for Multiple Myeloma patients who received CAR T-Cell therapy within the past 10 years. From the eligible therapy participants, significant variables such as lymphoma grade, status at bone marrow transplant, and history of substance use were compared between groups. We found that for African American patients who had never smoked, never consumed alcohol, and never used marijuana, the baseline mortality rates were 80% (n=4), 100% (n=2), and 100% (n=3), respectively. Comparatively, the corresponding mortality rates for non-African American patients were 17% (n=2), 20% (n=1), and 29% (n=29), respectively. From these results, we can conclude that African Americans in this cohort indeed have worse outcomes than their non-African American counterparts. The finding that even at baseline, African Americans have at least 4 times the mortality rate of non-African Americans is concerning and highlights the need for deeper investigation into the factors that are contributing to this disparity.

Patient Awareness of CAR-T and Bispecific Antibody Treatments for Multiple Myeloma (MM): Real-world Learnings and Disparities

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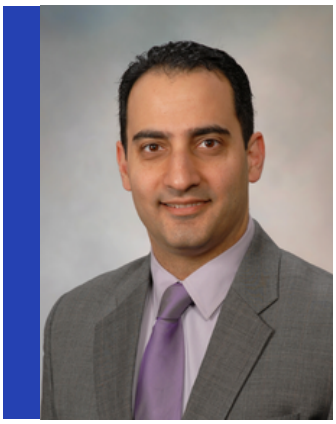
Texas Tech University Health Sciences Center School of Medicine



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Mayo Clinic

Introduction:
Treatment options for multiple myeloma (MM) are evolving rapidly. Awareness and understanding of complex treatments need to be evaluated so that patient preferences can be incorporated in evidence-based treatment decisions.

Methods:
Emails were sent to MM patients within the Mayo Clinic system, as well as to all IMF support groups, who were then asked to share a survey with their members. Questions included demographic information, awareness of available treatments, treatment preferences, and knowledge of specific myeloma treatments like CAR T and Bi-specific antibody therapy.

Results:
The analysis included a total of 2,370 participants with MM, with a mean age of 68 years and a median age of diagnosis of 62 years. Among the participants, 59.5% (n=1,410) had been diagnosed within the past five years. The majority of the study cohort, 89.4%, identified as non-Hispanic white. Regarding treatment awareness, participants with an associates degree and higher exhibited significantly greater awareness of CAR T and bispecific antibody treatments ($p<0.001$). Moreover, regional disparities were observed, with individuals from the midwest, northeast, and southern US regions being more likely to have heard of these treatment modalities. Additionally, participants residing in urban and suburban communities demonstrated higher awareness compared to those from rural areas.

Conclusion:
This study sheds light on the important issue of awareness and comprehension surrounding novel treatment choices for multiple myeloma. A large number of patients had lack of information regarding novel immunotherapy options and several survey respondents had preferences about the available therapeutics. The findings underscore the existence of notable discrepancies influenced by factors such as education level, geographic location, residency type, and time since diagnosis. To address these disparities effectively, it is imperative to implement tailored educational initiatives focused on those who may have the knowledge gaps.

Racial Differences in Outcomes of Patients with Relapsed/Refractory Multiple Myeloma Treated with Talquetamab in the Phase I MonumenTAL-1 Study (In Progress)

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The incidence of multiple myeloma is 2 to 3 times higher in African Americans compared to other races, making it the most common hematological malignancy in this race. There is evidence that there are differential responses and toxicities seen in multiple myeloma therapies between people of African descent and other races/ethnicities. This is evident in a study from 2021 by Boston Medical Center demonstrating hyperpigmentation in Black patients treated with immunomodulatory drugs.1 Differences were also seen in a study performed by Emory University demonstrating higher incidences of peripheral neuropathy in Black patients treated with bortezomib.2 A sub-analysis of the STORM trial with Selinexor for relapsed refractory multiple myeloma, found that Black patients had a longer progression free survival as compared to other races.3 Most recently was data presented at the 2022 American Society of Hematology Meeting, finding that Black patients treated with standard of care Idecabtagene vicleucel (ide-cel) Chimeric antigen receptor (CAR) T-cell therapy for myeloma were more likely to develop any grade cytokine release syndrome (CRS), have longer hospital stays, and experience more severe cytopenias compared to White and Hispanic patients.4 This contrasts with an early study in CAR T-cell therapies for hematologic malignancies which found race and ethnicity not impact CAR T-cell efficacy or neurotoxicity outcomes, however, only 4 were Black patients with myeloma.5

Our review of the literature found a paucity of data regarding Black race and T-cell redirecting therapies. We therefore sought to perform a race sub analysis of Talquetamab, a bispecific antibody against CD3 and GPRC5D, which redirects T cells to mediate killing of GPRC5D-expressing myeloma within the MonumenTAL-1 phase I study of patients with refractory multiple myeloma. In our earlier sub analysis of Selinexor STORM study, Black patients represented 17% of the patient population (35 Black, 148 White, 2 Asian, 11 other and 6 missing race)3, which is very comparable to MonumenTAL-1 study population of 10% Black (13 of the total 130) in the subcutaneous Talquetamab group and 14% Black (14 of the total 102) in the intravenous Talquetamab group.6

Therefore, we would propose to analyze the MonumenTAL-1 study data at to ascertain if the outcomes seen with previous myeloma racial analyses could be found with Talquetamab including the unique toxicities seen with this drug including skin effects, dysgeusia, and nail toxicity. We already gained permission from and will examine the data with, the MonumenTAL-1 Study primary investigator Dr. Larysa Sanchez at Mount Sinai School of Medicine and Janssen Oncology.

Racial disparities in the Incidence and Mortality Associated with Advanced Bone Disease and Renal Failure in Myeloma—A Community Practice Experience

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Outcomes in myeloma have improved over the last decade due to upfront use of highly active novel agents (i.e, immunomodulators and proteosome inhibitors), however the rate of improvement in survival outcomes is lagging in non-Hispanic black (NHB) patients. When compared to other ethnic groups, non-Hispanic black (NHB) patients have higher incidence and mortality from multiple myeloma compared to other ethnic groups. When treated in equal access medical care systems, the outcomes of NHB patients are equal or even exceed that of other races, suggesting that if NHB patients with myeloma are offered highly effective treatment upfront, and treatment is sustained over time, outcomes should be better than reported. There have been several large database evaluations which have identified underutilization of immunomodulators, proteosome inhibitors, and autologous stem cell transplant in NHB patients. The reasons these treatment options are either delayed or not offered are multifactorial, and difficult to elucidate in large population-based studies. When potential causes are reviewed, NHB do not tend to have more aggressive cytogenetics, or display inherent resistance to highly effective medications. The mitigated survival improvement in NHB patients with myeloma are tied up with issues of either treatment access or treatment trends over time, all likely impacted by socioeconomic barriers. Several of the disparity investigations utilize the Surveillance, Epidemiology, and End Results (SEER) database analysis, which include the 18 cancer registries in the United States representing 48% of the US population. Alabama is not included in this registry, and NHBs comprise >25% of the Alabama population. Only 2 of the states in the SEER registry, Georgia, and Louisiana, have a NHB population comparable to Alabama. The paradox of what happens to NHB from the time of Dx to the time of death that results in the outcome gap, continues to allude myeloma investigators using the population based data registries available.

Alabama Oncology is a 7 campus hematology/oncology community practice group, which services a wide range of zip codes across the Birmingham metropolitan area, with a large myeloma patient population. This practice is uniquely poised to study presentation patterns and outcome trends of myeloma patients in this understudied region of the US. To evaluate disparities of survival within the Alabama myeloma patient population, We conducted a retrospective observational analysis of early and late outcomes associated with myeloma patients presenting with aggressive clinical features including advanced lytic disease, hypercalcemia, and renal failure stratified by race, ethnicity, and socioeconomic status.

Referral Patterns for Chimeric Antigen Receptor Therapy for Multiple Myeloma

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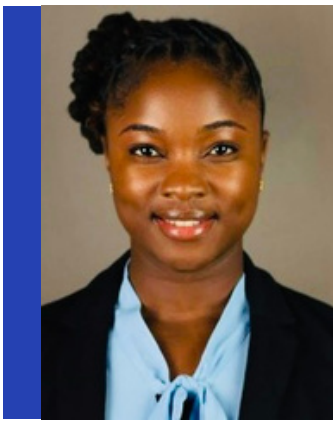

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PURPOSE: To identify potential gaps in referral patterns for chimeric antigen receptor t-cell therapy (CAR-T) in patients with Multiple Myeloma at Moffitt Cancer Center.

METHODS: We conducted a retrospective study of 236 patients with multiple myeloma who were referred for CART at Moffitt Cancer Center over a 15-month period January 2022-March 2023. We aim to describe differences in baseline characteristics.

RESULTS: We reviewed 236 consultations for multiple myeloma during the time frame of 15 months. Of those who completed the consultation, 107(45%) went to proceed to CART infusion. 37(16%) African American (AA) patients received consultation. 21(9%) patients who received consultation identified as Hispanic. Importantly, 106(44%) of patients who received consultation were considered High Risk Myeloma as defined by the International Myeloma Working Group (IMWG). Interestingly, 152(64%) patients who received consultation were under 70 years old.

CONCLUSION: This is the first study, to our knowledge, to assess referral patterns for patients with Multiple Myeloma. Our findings highlight that the referred patients were generally younger than the average myeloma patient and had a higher rate of high-risk disease. Efforts should be directed towards improving referral patterns in this vulnerable population to ensure optimal access to CAR-T therapy.

Research Gaps in Multiple Myeloma Racial Disparities and Disease Cytogenetics

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Multiple myeloma is a relatively rare blood cancer in the United States. However, it is the most common blood cancer in African-Americans (AA). Recent research has shown that although AA have a lower risk genetic profile than whites, AA have double the risk of developing and dying from multiple myeloma. When treatments are equal, AA have a better outcome than whites. Differences in mortality rates are greatly due to lack of access to care and awareness of multiple myeloma. This research investigates the shortages in current research regarding cytogenetic differences in black and white myeloma patients. There are many opportunities to expand our current knowledge of MM diagnosis and treatment to better serve our patient populations.

Uncovering Disparities in Autologous Bone Marrow Transplantation: Patient Perspectives and Decision-Making

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Howard University
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Spartanburg Regional
Healthcare System

We conducted a thorough investigation by reviewing literature and interviewing a patient to understand why some multiple myeloma (MM) patients do not opt for autologous bone marrow transplant. Patient feedback is essential to gain firsthand perspectives and insights into their decision-making process. By understanding the factors that influence this decision, we aim to have a more targeted approach to address the observed disparities and improve patient care. This approach is crucial in identifying gaps in knowledge, improving communication, and ultimately reducing disparities in treatment access.

FOR MORE INFORMATION, PLEASE VISIT:

www.myeloma.org

www.thecobbinstitute.org

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