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# POSTER ABSTRACTS

## 906.OUTCOMES RESEARCH-MYELOID MALIGNANCIES

### The Epidemiology of Cardiovascular Disease in African American Patients with Myeloid Neoplasms: A SEER Data Analysis

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Introduction:
Cardiovascular disease (CVD) mortality rates are higher in cancer survivors compared to the general population. Numerous studies have reported racial disparities in CVD mortality among cancer survivors. However, there is a lack of research exploring CVD mortality specifically in African American (AA) patients (pts) with myelodysplastic syndromes (MDS) and myeloproliferative neoplasms (MPN). To address this gap, we conducted a comprehensive population-based study to analyze cardiovascular mortality in the AA population with MDS and MPN.
Methods and Statistical analysis:
In Surveillance, Epidemiology, and End Results (SEER) database using the 17 registries, we identified cases of essential thrombocythemia (ET), Polycythemia Vera (PV), Primary Myelofibrosis (PMF), and Myelodysplastic syndromes (MDS) in AA population diagnosed between 2001-2020, with the diagnosis age >=20. CVD deaths included deaths from heart diseases, hypertension without heart disease, cerebrovascular diseases, atherosclerosis, and diabetes mellitus, based on the SEER Causes of Death Register and International Classification of Diseases (10th Revision, ICD10). Death rates were calculated by dividing the number of deaths over person-years of follow-up. We also estimated the standardized mortality ratios (SMR by dividing the observed cardiovascular deaths rates in our sample over expected CVD death rates of general population with no cancer, matched to age, gender and ethnicity. All analyses were performed by SEER*Stat 8.4.1.2 and R 4.2.2.
Results:
The study included 8135 patients, with following diagnoses: ET (n= 2317), PV (n= 1231), PMF (n= 377) and MDS (n= 4210). Overall, 2640 of the total study population (32.45%) died, of which 39.5% were CVD deaths. The mean follow up for PV, ET, PMF and MDS cohorts was 6.44, 5.95, 3.67 and 3.82 years, respectively (Table 1). The CVD mortality rate per 1,000 person-years in PV, ET and PMF subgroups were 17.9, 14.95, and 29.6, respectively. Notably, the rate was highest in the MDS subgroup, 40.37 compared to other subgroups (P<0.01). Comparing the CVD mortality of each risk group to the general US AA population, we observed significantly increased CVD SMRs. These were highest in PMF and MDS (SMR, 3.07; 95% CI, 2.2-4.16 and 2.25; 95% CI, 2.08-2.43, respectively), followed by PV (SMR, 1.75; 95% CI, 1.47-2.06) and ET (SMR, 1.67; 95% CI, 1.45-1.92).When comparing CVD mortality to the general CVD mortality rate in the AA population, we found higher rates across all age groups, including SMR, 13.16; 95% CI, 4.27- 30.72 in 20-29 yrs, SMR, 5.4; 95% CI, 2.95- 9.06 in 30-39 yrs, (SMR, 2.20; 95% CI, 1.92- 2.52) in 60-69 yrs, (SMR, 1.87; 95% CI, 1.67- 2.1) in 70-79 yrs (Figure 1).
Conclusion:

Our analysis highlights the magnitude of CVD-related deaths in the AA population with MDS and MPN. Among studied subgroups, the impact was highest in patients with MDS. This could be explained by a shared mechanism of CVD pathogenesis with MDS and clonal hematopoiesis of indeterminate potential (CHIP). In addition, we report a higher risk of CVD mortality at younger ages in AA pts relative to older age group. Because CVD-related mortality is high in AA with MDS and MPN, introduction of preventative cardiology services after diagnosis might be warranted to improve survival.

**Disclosures Carraway:** *Celgene:* Research Funding; *Jazz Pharmaceuticals:* Consultancy, Other: Travel, Accommodations, Expenses , Speakers Bureau; *Agios:* Consultancy, Speakers Bureau; *Takeda:* Other; *BMS:* Consultancy, Research Funding, Speakers Bureau; *Novartis:* Consultancy, Other: Travel, Accommodations, Expenses , Speakers Bureau; *Stemline Therapeutics:* Consultancy, Speakers Bureau; *Genentech:* Consultancy; *AbbVie:* Other; *Daiichi:* Consultancy; *Astex Pharmaceuticals:* Other; *Syndax:* Other: DSMB. **Gerds:** *Accurate Pharmaceuticals, Constellation Pharmaceuticals, CTI BioPharma, Imago BioSciences, Incyte Corporation, Kratos Pharmaceuticals:* Research Funding; *AbbVie, Bristol Myers Squibb, Constellation Pharmaceuticals, GlaxoSmithKline, Kartos, Novartis, PharmaEssentia, Sierra Oncology:* Consultancy. **Mustafa Ali:** *Daiichi Sankyo:* Consultancy, Other: 10/19/2022 North Central Regional US Quizartinib/AML Advisory Board Not active ( one-time occurrence). **Advani:** *Novartis:* Honoraria, Membership on an entity's Board of Directors or advisory committees; *Seattle Genetics:* Research Funding; *Jazz:* Honoraria, Membership on an entity's Board of Directors or advisory committees; *Kura:* Honoraria; *Macrogenics:* Research Funding; *Nkarta:* Honoraria; *Beam:* Honoraria; *Servier:* Research Funding; *OBI:* Research Funding; *Taiho:* Honoraria, Membership on an entity's Board of Directors or advisory committees; *Immunogen:* Research Funding; *Kite:* Honoraria, Other: consulting, Research Funding; *Incyte:* Research Funding; *Glycomimetics:* Membership on an entity's Board of Directors or advisory committees, Research Funding; *Pfizer:* Honoraria, Research Funding; *Amgen:* Honoraria, Other: advisory board, Research Funding. **Maciejewski:** *Novartis:* Honoraria, Speakers Bureau; *Regeneron:* Consultancy, Honoraria; *Alexion:* Membership on an entity's Board of Directors or advisory committees; *Omeros:* Consultancy. **Mukherjee:** *Novartis:* Other: Advisory Board; *Bristol Myers Squibb:* Other: Advisory Board; *Celgene/Acceleron:* Other: Advisory Board; *Blueprint Medicines Corporation:* Other: Advisory Board; *Genentech and AbbVie:* Other: Advisory Board; *EUSA:* Other: Advisory Board; *Aplastic Anemia and MDS International Foundation:* Honoraria; *Celgene (now BMS):* Honoraria; *Bristol Myers Squibb:* Honoraria; *McGraw Hill Hematology Oncology Board Review:* Honoraria; *EUSA:* Honoraria; *BioPharm:* Consultancy; *Bristol Myers Squibb:* Consultancy; *Novartis:* Consultancy; *Celgene (now BMS):* Consultancy; *Celgene (now BMS):* Research Funding; *Novartis:* Research Funding; *Jazz Pharmaceuticals:* Research Funding. **Singh:** *Rigel:* Other: Advisor or review panel participant.

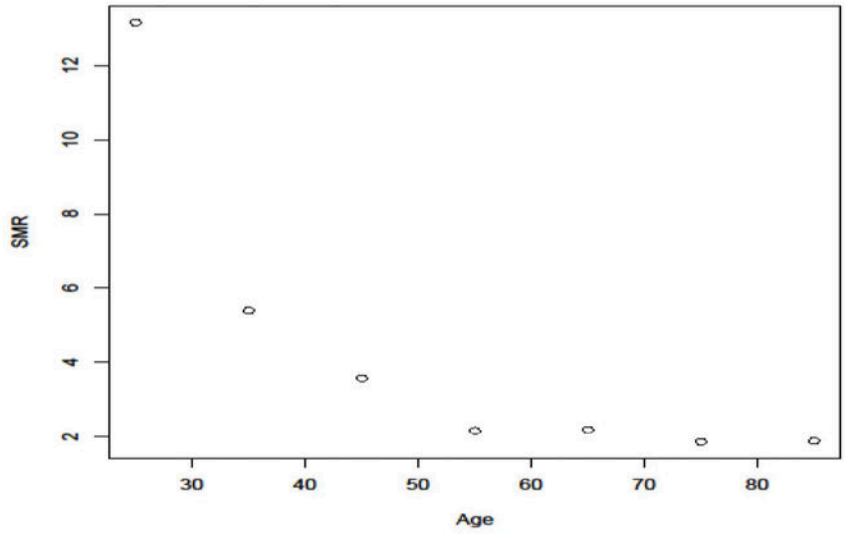


Figure 1: Standardized mortality ratio in different age groups of African American population diagnosed with MDS and MPN compared to general US AA population.

| | Number of sub-groups | Mean follow-up years | Number of cardiovascular deaths | CVD mortality rate (1/1,000 person-years) | P-value (level vs reference) |
|---|---|---|---|---|---|
| Polycythemia vera | 1231 | 6.44 | 142 | 17.9 | ref |
| Essential thrombocythemia | 2317 | 5.95 | 206 | 14.95 | .11 |
| Primary myelofibrosis | 377 | 3.67 | 41 | 29.6 | .66 |
| Myelodysplastic syndrome (MDS) | 4210 | 3.82 | 650 | 40.37 | <.001 |
| Gender | | | | | |
| Female | 4500 | 5 | 588 | 26.12 | ref |
| Male | 3635 | 4.59 | 451 | 27.03 | 0.48 |
| Age group | | | | | |
| 20-29 years | 199 | 6.55 | 5 | 3.84 | ref |
| 30-39 years | 409 | 6.69 | 14 | 5.11 | 0.56 |
| 40-49 years | 871 | 6.67 | 51 | 8.78 | 0.07 |
| 50-59 years | 1381 | 6.2 | 100 | 11.67 | 0.02 |
| 60-69 years | 1968 | 4.88 | 217 | 22.61 | <.001 |
| 70-79 years | 1870 | 4 | 303 | 40.55 | <.001 |
| 80+ years | 1437 | 2.58 | 349 | 94.06 | <.001 |

Table 1: Baseline characteristics and CVD mortality rates

**Figure 1**

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