Racial Disparities in Myelodysplastic Syndrome Related Inpatient Mortality

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BACKGROUND

Myelodysplastic syndromes (MDS) are a group of disorders characterized by clonal proliferation of hematopoietic stem cells that may progress to acute myeloid leukemia. While outcomes classically depend on pathologic, molecular, and clinical features, racial/ethnic differences are emerging to contribute to disparate outcomes in MDS. Here, we analyzed trends in MDS-related hospitalization and in-patient death across race/ethnicity.

METHODS

We conducted a retrospective cohort study using the Nationwide Inpatient Sample (HCUP-NIS) from January 1st, 2010 through December 31st, 2019. All adults over age 18 hospitalized with an MDS ICD-9 or 10 code were included. Race/ethnicity were stratified as non-Hispanic (NH)-White, NH-Black, Hispanic, NH-Other. We performed bivariate analyses to assess associations between sociodemographic characteristics and MDS hospitalizations and joinpoint regression analysis as well as adjusted survey logistic regression to assess trends in inpatient mortality among MDS hospitalizations by race/ethnicity.

RESULTS

Our data captured 787,105 hospital encounters with MDS diagnosis from 2010 to 2019. Despite a lower prevalence of MDS within the NH-Other population compared to NH-white, there was a significantly higher prevalence of inpatient death among those with MDS in the NH-Other population compared to NH-white (Figure 1). Over the 10-year course of our study, there was a statistically significant decrease in inpatient mortality overall with an annual average percent change (AAPC) of -1.6 (-3.1, -0.01) (Figure 2). However, only the NH-White group saw a statistically significant decrease in inpatient mortality over 10 years, with AAPC of -1.8 (-3.4, -0.1) (Figure 2). In contrast, inpatient mortality rate increased in Hispanic and NH-Other groups, although these were not statistically significant (Figure 2).

CONCLUSION

Our results demonstrate differences in inpatient mortality in MDS depending on race, with a statistically significant decrease in inpatient mortality within the NH-White group only. Further research to understand the relationship between MDS hospitalization, death and race/ethnicity status is warranted.
Figure 1. Prevalence of MDS hospitalizations and MDS associated inpatient mortality, by race/ethnicity
Figure 2. Trends in the rates of inpatient deaths among MDS hospitalizations, by race/ethnicity: 2010-2019