Racial Disparity in Survival Among Adolescents and Young Adults Diagnosed With Myelodysplastic Syndrome Using the SEER Database

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Introduction

Myelodysplastic syndromes (MDSs), first described in the 1980s, are myeloid neoplasms that have morphologically ineffective or abnormal maturing hematopoiesis, which leads to cytopenia in the peripheral blood. Although initially thought to be a disease of older age, MDS has been diagnosed in adolescents and young adults (AYAs). There is limited research regarding survival and disparity due to racial origins in AYAs in MDS.

Aim

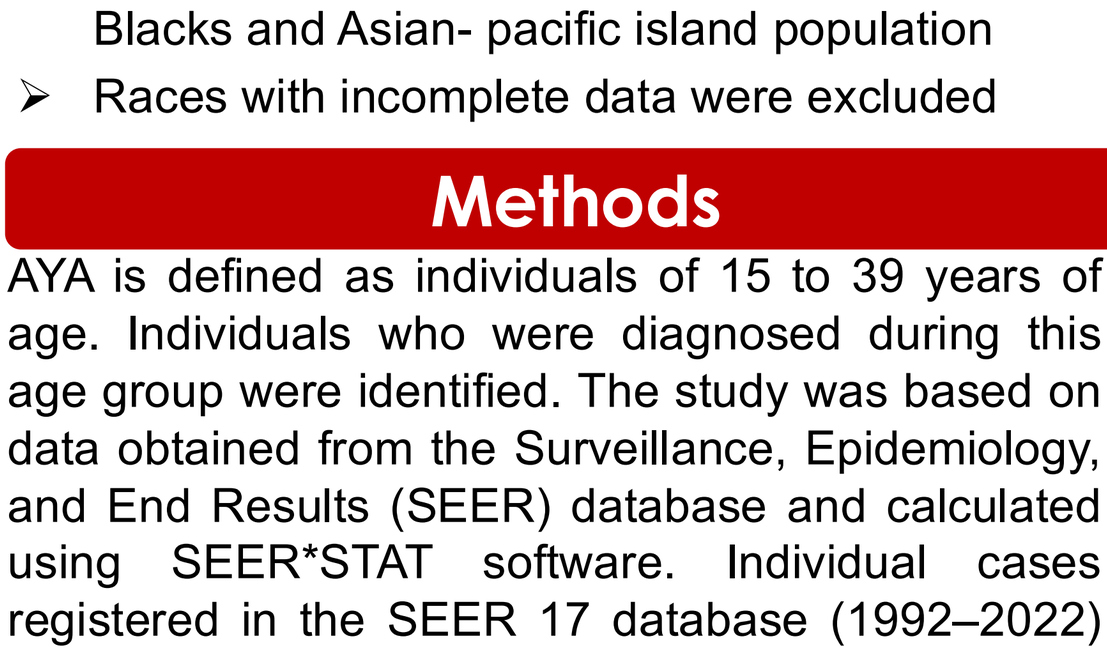
To determine the cause-specific survival in AYAs with respect to racial origin and age of diagnosis.

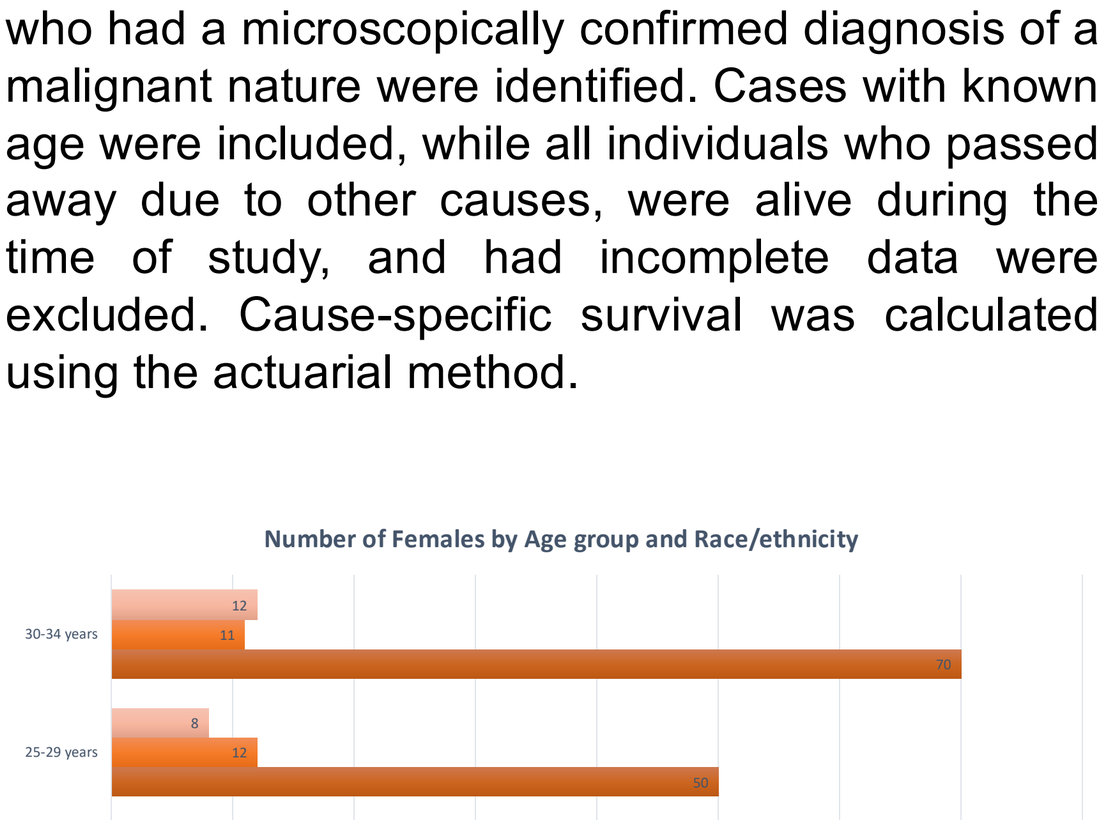
Objectives

- Cause specific survival at 60 months using SEER database
- Divided between 3 specific divisions: Whites, Blacks and Asian- pacific island population
- Races with incomplete data were excluded

Methods

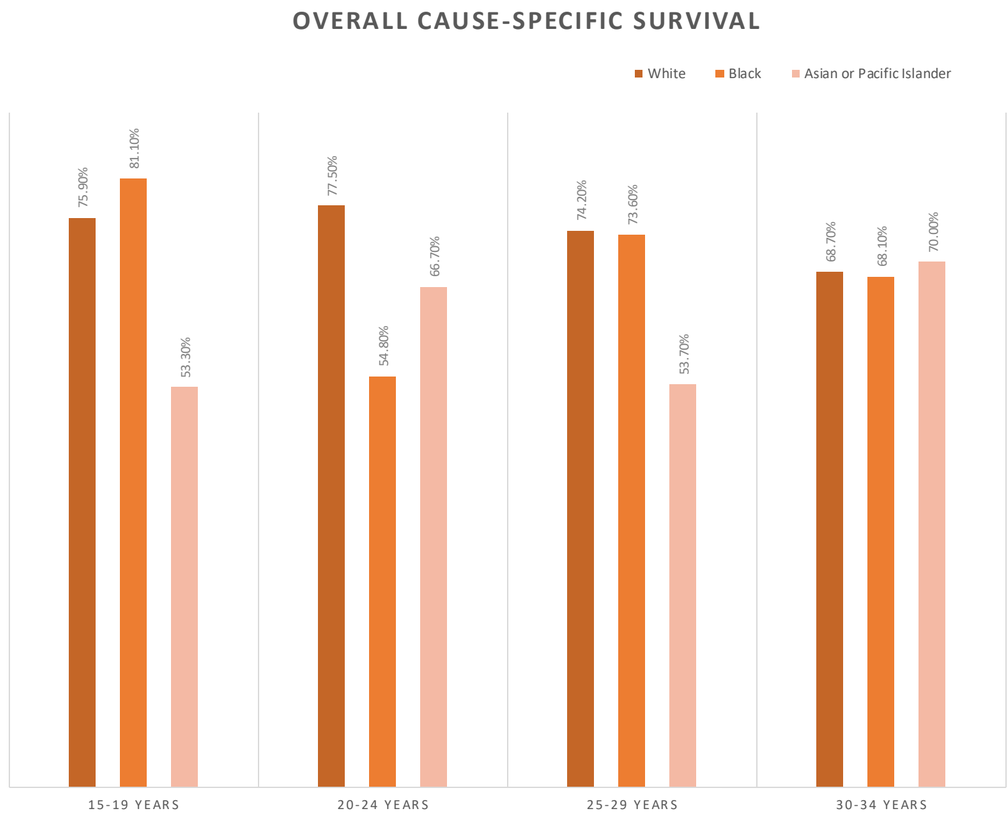
AYA is defined as individuals of 15 to 39 years of age. Individuals who were diagnosed during this age group were identified. The study was based on data obtained from the Surveillance, Epidemiology, and End Results (SEER) database and calculated using SEER*STAT software. Individual cases registered in the SEER 17 database (1992–2022) who had a microscopically confirmed diagnosis of a malignant nature were identified. Cases with known age were included, while all individuals who passed away due to other causes, were alive during the time of study, and had incomplete data were excluded. Cause-specific survival was calculated using the actuarial method.





Results

The cause-specific survival rate of 60 months was calculated for 830 unique cases meeting the inclusion criteria. The lowest rate of 53.30% (SE, 24.8%) was noted for individuals of Asian or Pacific Islander descent, who were diagnosed at 15–19 years of age. The highest 60-month survival of 81.10% (SE, 5.3%) was noted in individuals of Black descent diagnosed at 15–19 years of age. The 60-month survival ranged from 68.7% to 77.5% for White people, 54.% to 81.1% for Black people, and 53.3% to 70% for Asian or Pacific Islander people. Overall, better survival was seen in White people, although previously MDS has been found to have longer survival in Black people. Limited data were available for individuals from American Indian and Native descent; thus, statistically significant data could not be calculated.



Summary

MDS has a different distribution in AYAs, affecting survival mostly in individuals of Asian or Pacific Islander descent. Environmental, socioeconomic, and accessibility factors cannot be undermined and need further investigation and study.

Discussion

MDS is usually a diagnosis of the elderly, thus limited studies have been done for the AYA group. Previously notable studies mentioned no difference in survival based on race. [1] However this study shows that the 60-month survival in young adults has some differences. The lowest rate of 53.30% (SE, 24.8%) is noted in AYA of Asian or Pacific Islander descent who were diagnosed at 15–19 yrs. The highest 60-month survival of 81.10% (SE, 5.3%) was noted in individuals of Black descent diagnosed at 15–19 years of age which is in alignment with overall data previously known to us. [2] [3] The 60-month survival rate ranged from 68.7% to 77.5% for White people, 54.% to 81.1% for Black people, and 53.3% to 70% for Asian or Pacific Islander people. Overall, better survival was seen in White people, although previously MDS has been found to have longer survival in Black people. [2] However the higher incidence in the whites and their better availability of the information needs to be kept in mind. Unfortunately, the presence of limited data was available for individuals from American Indian and Native descent; the 5-year survival couldn't be calculated and thus excluded. This study opens the necessity for further studies to be done looking into further ethnic minorities. Retrospective study as such comes with its several limitations and confounding factors and further studies are necessary.

References

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