Racial and Ethnic Differences in Cardiovascular Outcomes in Patients Diagnosed with Hypertrophic Cardiomyopathy
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BACKGROUND
• Although clinical characteristics and treatment of hypertrophic cardiomyopathy (HCM) are well documented, it is imperative to investigate the impact of sociodemographic factors on cardiovascular (CV) outcomes in patients with HCM.1–3
• Prior studies investigating the association between race/ethnicity and CV outcomes in patients with HCM have been limited in size.
• This study investigated these associations in a large national cohort of patients with HCM.

HYPOTHESIS
• Differences exist in CV outcomes and all-cause mortality by race/ethnicity in patients diagnosed with HCM.

METHODS

Study Design
• Retrospective cohort study of adult patients with HCM in Optum’s Market Clarity database from January 1, 2013, through December 31, 2021 (index date = first HCM diagnosis).
  – Patients with ≥2 medical claims with a diagnosis code for HCM (ICD-9: 425.1, 425.11, or 425.12; ICD-10: I42.1 or I42.2) in any position on different dates of service ≥30 days apart.
  – 6 months of baseline and ≥6 months of follow-up continuous enrollment, and no evidence of Fabry disease or amyloidosis during the study period.

Study Outcomes
• Clinical characteristics, CV outcomes (atrial fibrillation, stroke, heart failure, ventricular arrhythmia, stress cardiomyopathy, sudden cardiac arrest, and heart transplant), and mortality.

Statistical Methods
• Event rates per 100,000 person-years to estimate risk of CV outcomes. Kaplan-Meier analysis to evaluate risk of mortality. Comparison of outcomes by race/ethnicity; all tests were 2-sided α=0.05.

RESULTS
• A total of 24,586 study-eligible patients with HCM were identified after the patient selection criteria were applied.
  – The mean ± SD age was 61.3 ± 14.9 years; mean follow-up was 43.9 ± 28.9 months, and 49.0% were female (Table 1).
  – Baseline characteristics by race/ethnic characteristics are shown (Figure 1).
• Compared with White patients, Black patients had higher rates of stroke (rate ratio [RR] 1.78; P<0.001), heart failure (RR 1.59; P<0.001), ventricular tachycardia (RR 1.16; P<0.001), and sudden cardiac arrest (RR 1.72; P<0.001) (Figure 2).
• The 3-year cumulative all-cause mortality rate was higher among Black patients (8.01%) and lower among Asian (3.84%) and Hispanic (4.06%) vs White (7.43%) patients (Figure 3; P<0.001).

Table 1. Patient demographics and clinical characteristics

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Total (N=24,586)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years (continuous)</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td>18–39</td>
<td>2176 ± 8.85</td>
</tr>
<tr>
<td>40–54</td>
<td>4984 ± 20.19</td>
</tr>
<tr>
<td>55–74</td>
<td>5909 ± 22.41</td>
</tr>
<tr>
<td>75+</td>
<td>5241 ± 21.32</td>
</tr>
<tr>
<td>Sex, male</td>
<td>12,537 ± 9.99</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>14,421 ± 9.99</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>2270 ± 9.99</td>
</tr>
<tr>
<td>Black/African American, non-Hispanic</td>
<td>3659 ± 9.99</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2270 ± 9.99</td>
</tr>
<tr>
<td>Unknown/missing</td>
<td>3356 ± 9.99</td>
</tr>
</tbody>
</table>

Hypertrophic cardiomyopathy
• Compared with White patients, non-Hispanic Black patients with HCM had the highest rate of adverse CV outcomes and all-cause mortality, whereas Asian and Hispanic patients had lower rates over the follow-up period.
• These results highlight an urgent need to identify and address drivers of race/ethnicity-based disparities in HCM.

CONCLUSIONS

REFERENCES

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