Clinical Profile of Obstructive Hypertrophic Cardiomyopathy in a Nationwide Patient Cohort

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BACKGROUND

• Hypertrophic cardiomyopathy (HCM) is a common genetic heart disease worldwide.
• Obstructive hypertrophic cardiomyopathy (oHCM) is present in about two-thirds of patients with HCM.
• There are limited data on the clinical profile of a community-based patient cohort with oHCM.
• Characterizing patients with oHCM in the general US population may expand our understanding of HCM outcomes and improve clinical identification and treatment of this disease.

OBJECTIVE

• We made use of a large, nationwide, managed-care database to characterize a patient cohort with oHCM.

METHODS

• This was a retrospective observational study utilizing claims data from the HealthCore Integrated Research Database (HIRD) during the study period of January 1, 2012 through January 31, 2020.
• The HIRD is a broad, clinically rich, and geographically diverse spectrum of longitudinal medical and pharmacy claims data, representing over 50 million lives of commercially insured and Medicare Advantage members across the United States.
• We identified adult patients (≥ 18 years) with ≥ 2 claims of any oHCM (ICD-9/10-CM) classification codes: HCM: 425.1x, I42.1, I42.2; oHCM: 425.11, I42.1.
• The index date was the earliest diagnosis of oHCM.
• Patient characteristics and outcomes were reported for the 12-month period before the index date and at the 2-year follow-up.

RESULTS

• A total of 1,948 patients with oHCM were identified (52% male; 63.2 ± 15 years) (Table 1).
• Most patients with oHCM received care within a community-based cardiovascular practice; only 7% had encounters at referral HCM centers.
• Sudden cardiac death had occurred in 0.7% of patients, atrial fibrillation in 26%, and heart failure in 95% by the 2-year follow-up, and heart failure had increased by 9% (16% vs 25%) (Figure 2).
• The percentages of patients with diagnostic procedures and myocardial imaging had increased by the 2-year follow-up (Figures 3 and 4).
• Drug therapy significantly increased (p < 0.01) from baseline to 2-year follow-up for all HCM-related medications: β-blockers (29% vs 79%), calcium channel blockers (19% vs 33%), antiarrhythmics (14% vs 22%), antihypertensives (4% vs 10%), diuretics (1% vs 9%) (Figure 5).
• At the 2-year follow-up, 144 patients (8%) had received an implantable cardioverter-defibrillator for sudden cardiac death prevention, and there had been 123 (6%) septal reduction therapies (3% myectomy, 1% alcohol septal ablation) (Figure 6), with the mean time from initial evaluation to procedure being 218 days and 97 days, respectively.

CONCLUSIONS

• This is the largest study to examine a national sample of patients with oHCM using longitudinal medical and pharmacy claims data.
• In a community-based population, patients with oHCM at diagnosis were, on average, in their early 60s, and they had a significant burden of cardiovascular comorbidities.
• Cardiovascular medication usage was high in this oHCM population in real-world settings.

Table 1. Patient demographics

<table>
<thead>
<tr>
<th>Age (years), median (IQR)</th>
<th>Male, n (%)</th>
<th>Weight (kg), median (IQR)</th>
<th>Height (cm), median (IQR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>63.2 (15.0)</td>
<td>958 (52.0)</td>
<td>245 (7.0)</td>
<td>172 (4.5)</td>
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</tbody>
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Figure 1. Percentage of patients: (A) Age categories (years); (B) geographic region

Figure 2. Cardiovascular comorbidities

Figure 3. Patients with ≥ 1 claim for diagnostic procedures

Figure 4. Myocardial imaging

Figure 5. Patients with ≥ 1 claim for HCM-related prescription-medication use

Figure 6. Surgical procedures at 2-year follow-up

References


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Disclosures

If an author has a relationship or relevant disclosures to report, M Butzner and A Sarocco are employees of Cytokinetics, Incorporated. P Sarocco was an employee of Cytokinetics, Incorporated. C Teng, E Stanek, and L Robertson are employees of HealthCore.