

Demographic and Clinical Characteristics of Patients with Obstructive Hypertrophic Cardiomyopathy in a Large, Nationwide US Cohort

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BACKGROUND

- Hypertrophic cardiomyopathy (HCM) is the most common monogenetic genetic heart disease worldwide¹
- Echocardiographic-based epidemiologic population studies performed worldwide have demonstrated an estimated prevalence of HCM in the general population of 1 in 500²
- Obstructive HCM (oHCM) is present in about two-thirds of patients with HCM
- oHCM has mostly been studied in patients treated in HCM centers of excellence
- Understanding the characteristics of patients with oHCM in the general US population may improve the screening, identification, and treatment outside of centers of excellence

OBJECTIVE

- To describe the demographics and clinical characteristics of patients with oHCM

METHODS

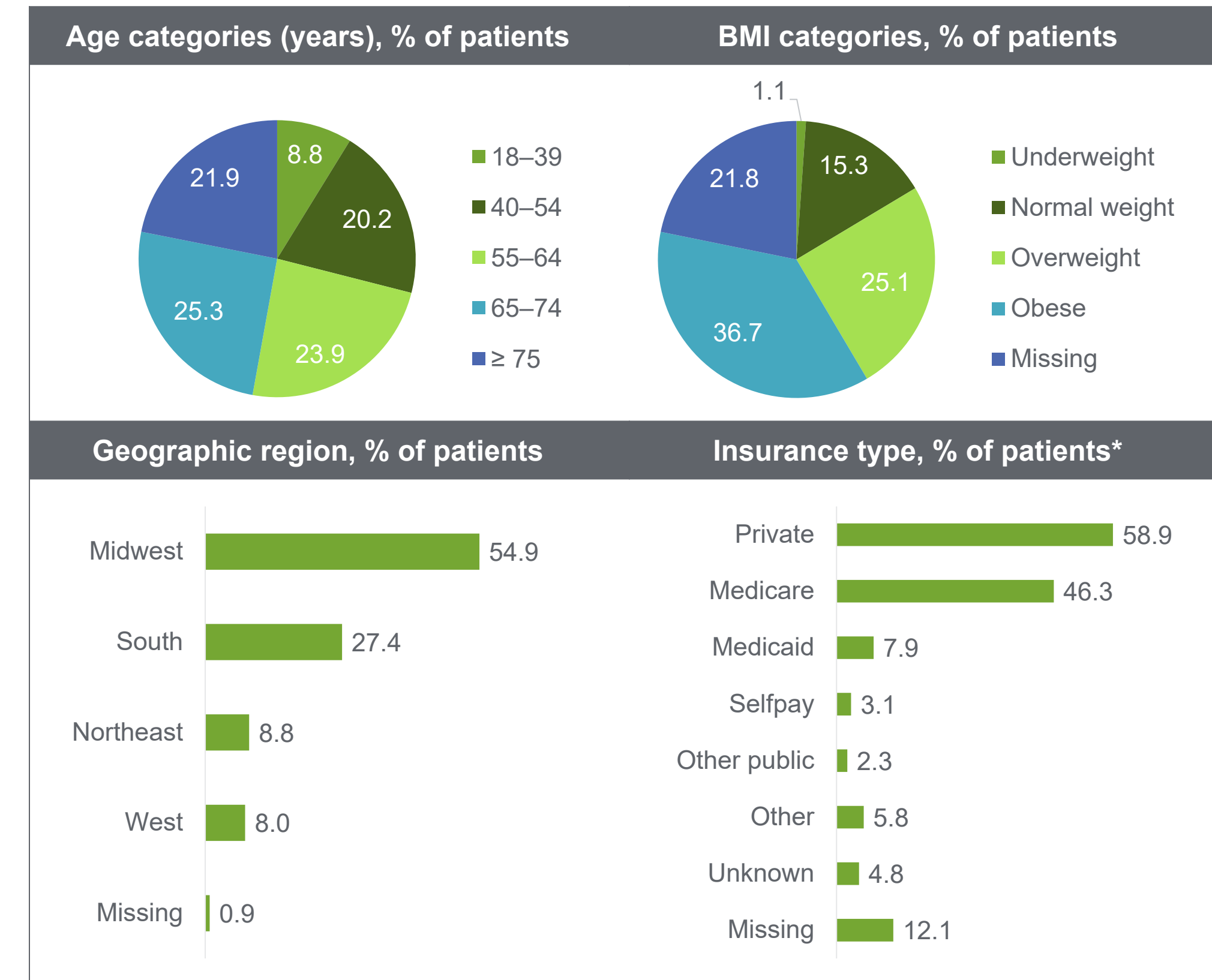
- This retrospective cohort study assessed patient-level data from the IBM Explorys Database
 - The database amassed electronic medical records from 39 Integrated Delivery Networks from 12,982,704 patients
 - The observation period was from January 1, 2010 to December 31, 2018
- We identified adult patients (> 18 years of age) with at least one inpatient or two outpatient oHCM diagnoses and at least one cardiology-related physician specialty encounter at 2 days or more after index
- Study outcomes included:
 - Demographic characteristics: age, sex, ethnicity, region of residence, and health plan type, and year of first diagnosis (index year) of patients over the follow-up time
 - Clinical characteristics: body mass index (BMI), smoking history, Quan-Charlson Comorbidity Index (QCI) at index, HCM-associated hospitalization and complication rates, use of specific therapies, and procedures of interest

RESULTS

- A total of 8,792 patients were included in the study
- 53.0% of patients were female; mean (standard deviation [SD]) age was 61.8 (15.0) years
- The mean (SD) continuous QCI was 4.71 (6.35)
- 26.0% of patients were current alcohol consumers; 30.9% were non-drinkers
- 27.5% of patients had consumed alcohol and 29.8% had never consumed alcohol in the previous 6 months
- Most patients were overweight/obese (mean [SD] BMI: 30.4 [7.0])
- Mean (SD) patient enrollment time post-index was 41.2 (28.3) months
 - 7,169 (81.5%) patients had enrollment time of \geq 12 months
 - 5,868 (66.7%) had enrollment time of \geq 24 months

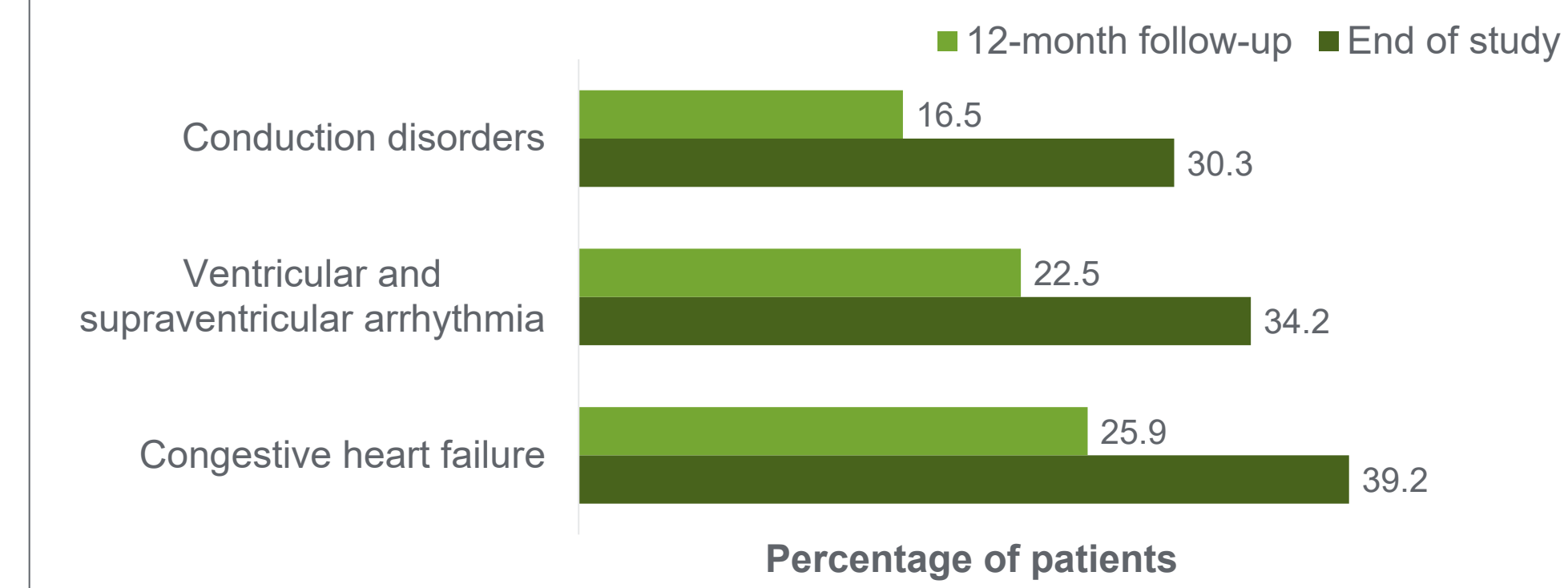
| Patient demographics and clinical characteristics | |
|---|--------------------------|
| | All patients (n = 8,792) |
| Age, mean (SD), years | 61.8 (15.0) |
| Female, n (%) | 4,660 (53.0) |
| Race, n (%) [*] | |
| White | 7,138 (81.2) |
| African American | 1,164 (13.2) |
| Multiracial | 138 (1.6) |
| Asian | 111 (1.3) |
| Hispanic Latino | 33 (0.4) |
| Other, unknown, refused to classify, or missing | 600 (6.8) |
| Quan-Charlson Comorbidity Index (QCI), n (%) [†] | |
| 0 | 4,547 (51.7%) |
| 1 | 734 (8.3%) |
| 2 | 481 (5.5%) |
| \geq 3 | 3,030 (34.5%) |
| QCI constituent conditions, n (%) [†] | |
| Congestive heart failure | 2,806 (31.9%) |
| Chronic pulmonary disease | 1,765 (20.1%) |
| Diabetes without chronic complication | 1,486 (16.9%) |
| Peripheral vascular disease | 1,241 (14.1%) |
| Renal disease | 883 (10.0%) |
| Cerebrovascular disease | 755 (8.6%) |
| Myocardial infarction | 683 (7.8%) |
| Any malignancy | 495 (5.6%) |

^{*}Total is greater than 100% because patients could be in multiple categories
[†]Assessed between index date -183 and index date +1
SD, standard deviation

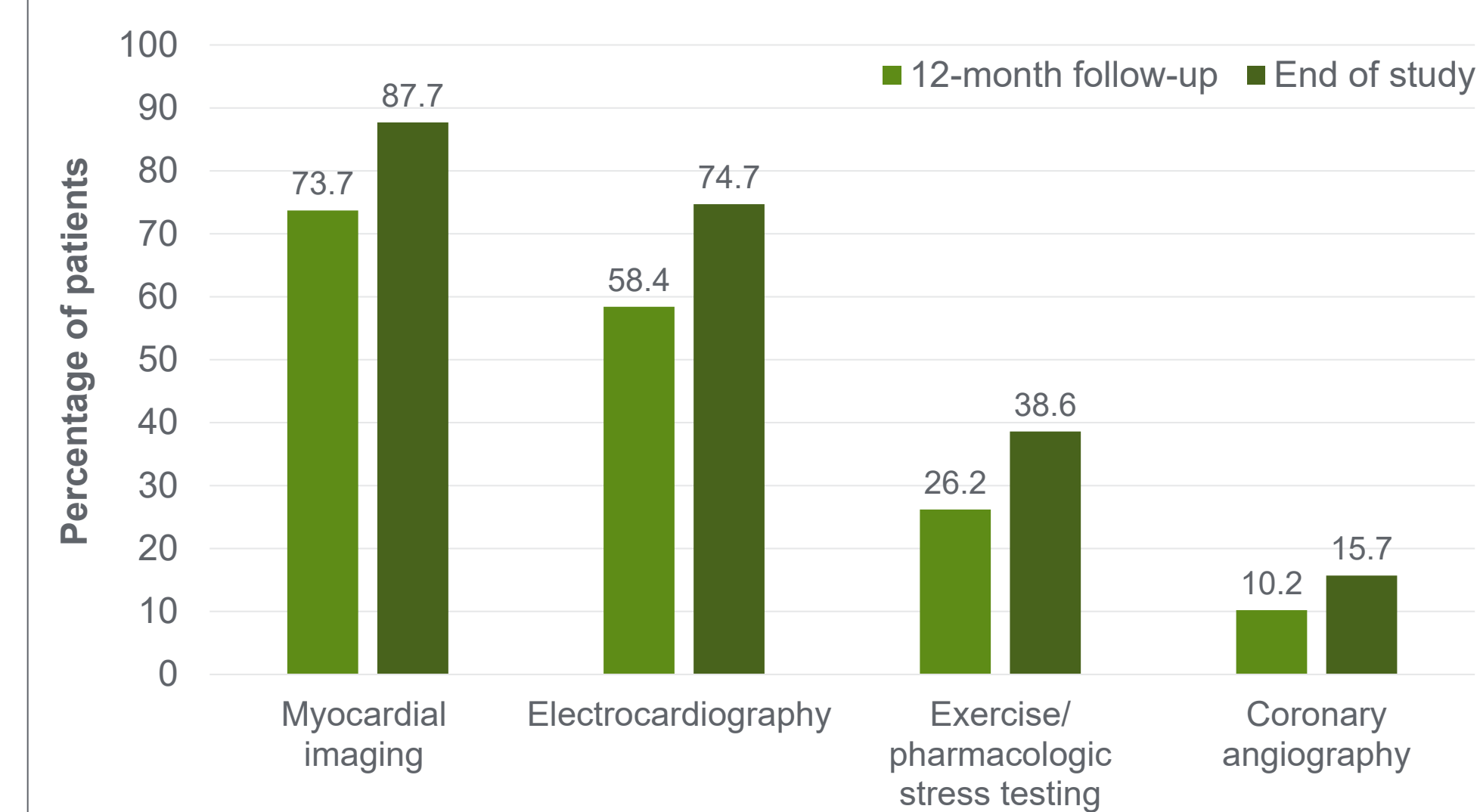


^{*}Patients could be in multiple categories
BMI, body mass index

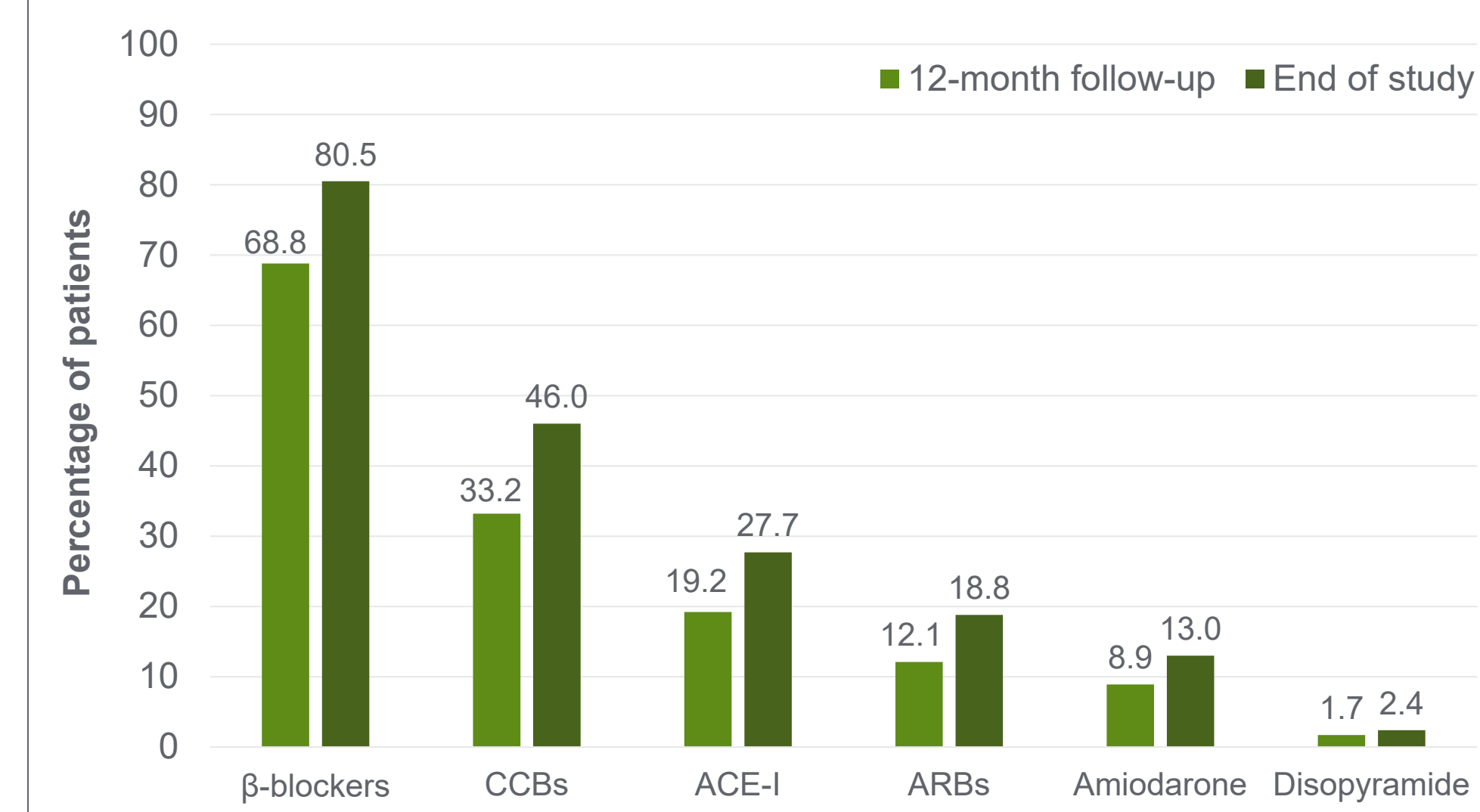
The most common (occurring in \geq 10% of patients) oHCM complications during the follow-up period



Patients with \geq 1 claim for diagnostic procedures (occurring in \geq 10% of patients)

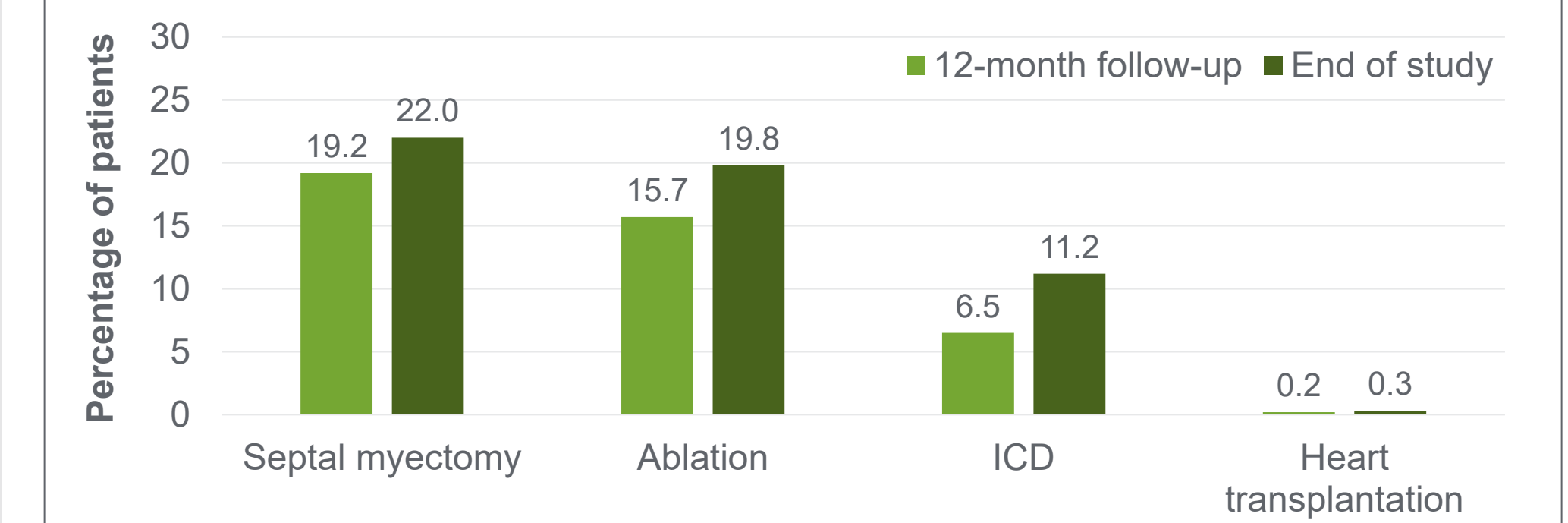


Patients with \geq 1 claim for prescription cardiovascular medication use



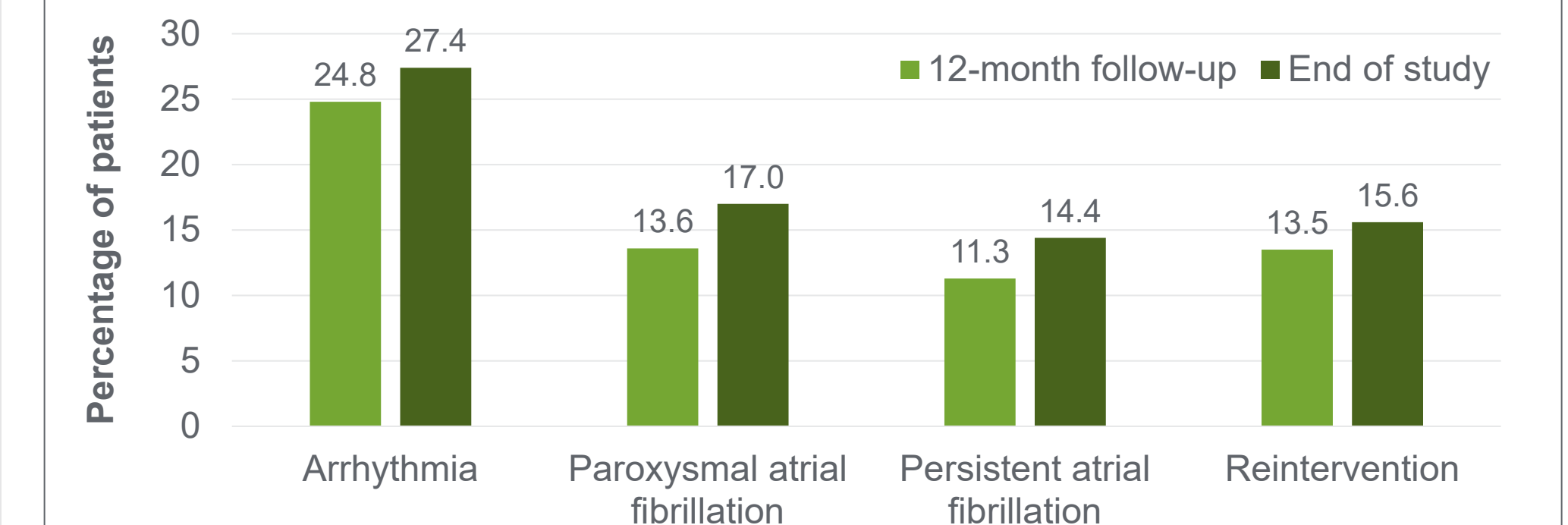
ACE-I, angiotensin-converting enzyme inhibitor; ARBs, angiotensin receptor blockers; CCBs, calcium channel blockers

Surgical procedures



ICD, implantable cardioverter defibrillator

Major residual side effects subsequent to surgical procedures and reintervention procedures (occurring in \geq 10% of patients)



CONCLUSIONS

- This is the first study to examine a national sample of oHCM patients using clinical data from more than 39 Integrated Delivery Networks
- Leveraging the Explorys Database allowed us to analyze a larger, more diverse cohort of oHCM patients across the entire United States
- The results from this analysis may be used to compare the characteristics of patients with oHCM in the general population with those treated in centers of excellence

References

- Marsiglia et al. (2014). *Arq Bras Cardiol.* 102(3):295-304.
- Maron et al. (2016). *Am J Cardiol.* 117(10):1651-1654.

Acknowledgments

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Disclosures

E Rowin and M Maron have no relevant disclosures to report. M Butzner, P Sarocco, and L Robertson are employees of Cytokinetics, Incorporated.