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FEMALE GENDER IS ASSOCIATED WITH MAJOR ADVERSE CARDIOVASCULAR EVENTS IN PATIENTS WITH HYPERTROPHIC CARDIOMYOPATHY

ACC Oral Contributions
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Background: Hypertrophic cardiomyopathy (HCM) is the most common, heritable cardiovascular disorder and the most frequent cause of sudden cardiac death (SCD) in young adults. Gender disparities with regards to clinical outcomes among HCM patients are not well-defined. We investigated the relationship between gender and cardiovascular outcomes within a large population of HCM patients.

Methods: Cine and late gadolinium enhancement (LGE) cardiac magnetic resonance imaging (CMR) were performed on HCM patients from a multi-center, international cohort. CMR scans were analyzed at a single data coordinating center. Primary outcome was a composite end-point of major adverse cardiovascular events which included SCD, aborted cardiac arrest, appropriate implantable cardioverter-defibrillator shock for ventricular tachycardia/fibrillation, cardiac transplant, progressive heart failure symptoms to NYHA class III or IV, embolic stroke death, or heart failure death.

Results: Among our cohort of 594 HCM patients (age, 49±16 y), 35% were women. Women were slightly older than men (51±17 vs. 48±16 y, p=0.02), but had smaller maximal left ventricular (LV) wall thickness (19.2±4.8 vs. 20.3±5.6 mm, p<0.02). There was no difference in LV ejection fraction (67±10% vs. 66±9%, p>0.10) or the presence or extent (% LV mass) of LGE (38% vs. 44%, p=0.22; 10.8±12.3% vs. 10.1±10.8% when LGE present, p=0.66). Over a follow-up of 3.5±1.4 y, the primary outcome occurred in 73 patients (12.3%), including 33 (16%) women and 40 (10%) men. Multivariable analysis revealed that female gender was independently associated with an increased risk of the primary end-point (Adjusted OR=1.9, 95% CI [1.12, 3.17], p=0.02), even after controlling for clinical variables (age, resting LV outflow tract gradient >30 mm Hg, LV ejection fraction) and SCD risk factors (LV mass, LGE, maximal LV wall thickness, unexplained syncope, family history of SCD due to HCM, and ambulatory non-sustained ventricular tachycardia).

Conclusion: In this multi-center, international cohort of HCM patients with CMR testing, female gender was associated with HCM-related adverse cardiovascular events.