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Commentary: What's a girl like you doing with a heart like this?

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Osman and colleagues investigate sex differences in short-term outcomes after septal myectomy (SM) for obstructive hypertrophic cardiomyopathy (HCM).¹ The US National Readmission Database was queried to identify a total of 3031 patients who underwent SM for HCM between 2015 and 2018. The authors found that female patients had a higher rate of postoperative pacemaker requirement, more nonhome discharges, longer hospital length of stay, and higher 30-day readmission compared with men. This study reinforces the known gender differences in clinical manifestations and outcomes across a wide array of cardiovascular diseases² and adds to the growing interest in sex-specific disparities in HCM in the contemporary literature.

Hypertrophic cardiomyopathy is an autosomal dominant disease and thus its presence in the general population is expected to be equal between genders. However, prior studies have noted HCM to be a male-predominant condition, demonstrating a male majority ranging from 55% to 78%.³ Women with HCM are often underdiagnosed, thus tend to present at an older age with more advanced symptoms than men.³⁻¹⁰ The present study highlights sex

The first author (S.N.) taking her junior resident (M.M.) through a cardiac operation.

CENTRAL MESSAGE

Sex-specific management may enable earlier detection and improve postoperative outcomes for women with hypertrophic cardiomyopathy.

disparity in HCM, demonstrating a significantly more complicated postmyectomy course in female patients. Nonetheless, short- and long-term survival following SM is reassuringly equivalent across genders.^{1,6}

These findings from the clinical and administrative datasets provide us with food for thought regarding the underlying mechanisms of sex differences in HCM. Among numerous biological differences between men and women, which account for pre- and perioperative characteristics, it is important to consider a discrepancy in heart size between male and female patients. Firstly, women generally have a thinner septum at baseline; thus, by the time diagnostic criterion of septal wall thickness ≥ 15 mm is reached, a woman's heart may have undergone greater relative hypertrophy, which accounts for a more advanced disease state at the time of diagnosis.⁷ Secondly, and more relevant to the readership, it may be more difficult to perform a comprehensive surgical myectomy of the septum in a smaller heart. Perhaps this explains why Osman and colleagues¹ report a higher incidence of new pacemaker implantation following SM in women. In fact, a similar susceptibility to conduction disturbances in women following surgical aortic valve replacement has recently been reported.¹¹ Given the established literature reporting worse outcomes in women following cardiac surgical procedures,^{12,13} one may hypothesize that smaller cardiac structures lead to worse outcomes in adult cardiac surgery. Thus, there may be an opportunity for

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surgeons to improve our skillset and influence outcomes, particularly for HCM.

Beyond sex analysis, the overall rates of in-hospital mortality and pacemaker requirement appear too high for contemporary SM for HCM. Of note, concomitant aortic and mitral valve replacement or coronary artery bypass grafting was performed far more frequently than expected. The study cohort may have consisted of patients with a mixed bag of diagnoses who had undergone SM, instead of those who truly had HCM. Let's hope that the concomitant procedures, particularly valve replacements, were not added on by inexperienced hands.

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