Hypertrophic Cardiomyopathy is Associated with Dilated Sinus of Valsalva: A Case-Control Study

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BACKGROUND
- Prior studies have suggested an association between Hypertrophic Cardiomyopathy and dilated aorta.
- However, this association has not been formally tested in a case control study.

HYPOTHESIS
- We designed this study to compare patients with Hypertrophic Cardiomyopathy against age and sex matched controls in a retrospective design tertiary care center.

METHODS
- We had 68,000 echocardiographic studies done at our tertiary care center.
- We found 176 cases of hypertrophic cardiomyopathy, as defined by American Heart Association criteria, after detailed evaluation by AJT.
- We identified 3,202 controls who were classified as normal clinically and echocardiographically.
- Controls were defined as normal patients referred to the echocardiography laboratory with no known risk factors for dilated aorta (e.g., aortic stenosis, hypertension, aortic regurgitation).
- Clinical chart review showed none of the risk factors for dilated aorta, and echocardiography did not reveal any abnormalities. 27 known risk factors for DA were excluded.

RESULTS
- The prevalence of a dilated sinus of Valsalva was 5 times higher in HCM patients (11.1%) than controls (2.4%).
- The 5-times higher prevalence in HCM patients persisted after adjusting for height (OR: 4.65, 95% CI 1.25-30.12, P=0.019), as well as weight.
- The prevalence of dilated mid-ascending aorta was 7 times higher in HCM patients (6%) than controls (0.88%).
- This association persisted in terms of magnitude (OR 5.66; P<0.05) but became statistically insignificant after adjusting for height (OR=5.66, 95% CI 0.96-107.42, P=0.056).

CONCLUSION
- In this study, after matching for age and sex, HCM appears to be associated with a dilated sinus of Valsalva, even after adjusting for height.

REFERENCES