**UNUSUAL CAUSES OF RESOLUTION OF LVOT OBSTRUCTION IN HYPERTROPHIC CARDIOMYOPATHY**

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**Background:**  Hypertrophic cardiomyopathy (HCM) is an autosomal dominant genetic disease of cardiac myofilaments with variable phenotypes and clinical course. Nearly 2/3 of adults with HCM have labeled as obstructive (HOCM) due to presence of dynamic left ventricular outflow tract left ventricular (LVOT) gradients at rest or with provocation. Presence of obstruction is associated with worse symptoms and outcomes in HCM. Although LVOT obstruction may respond to pharmacologic intervention, many patients with HOCM require septal reduction therapy for symptomatic relief. We report 3 patients with documented HOCM who had resolution of dynamic LVOT obstruction due to unusual reasons.

**Case presentations:**  The 3 patients were all women (age 70, 63 and 43 years) with familial HCM, marked LV hypertrophy (LV wall thickness >15 mm), and symptomatic severe LVOT obstruction. Two of the 3 patients presented with heart failure with preserved LV ejection fraction and 1 was brought in after witnessed out of hospital cardiac arrest. Basal septal thickness was 17, 21 and 23 mm. All patients demonstrated systolic anterior motion of the anterior mitral leaflet, asymmetric basal septal hypertrophy and an initial LVOT gradient of 49, 84 and 39 mmHg. Over an average of 5 (range 3 to 6) years of observation, LVOT obstruction completely resolved in all 3 women due to 1) severe pulmonary hypertension and cor pulmoale secondary to scleroderma resulting in markedly dyssynchronous ventricular septal motion; 2) rheumatic mitral valve disease with progression from minimal to severe stenosis resulting in restriction of anterior mitral leaflet excursion as well as thickening and retraction of both leaflets; 3) marked weight loss (~110 lbs) following gastric bypass surgery with significant regression of LV hypertrophy.

**Conclusion:**  HCM is a relatively common genetic disease of the heart with variable penetration. The disease may manifest itself at an advanced age and thus may be concomitantly presents with other diseases and conditions that can potentially alter the phenotypic expression of HCM as exemplified by the above 3 cases.