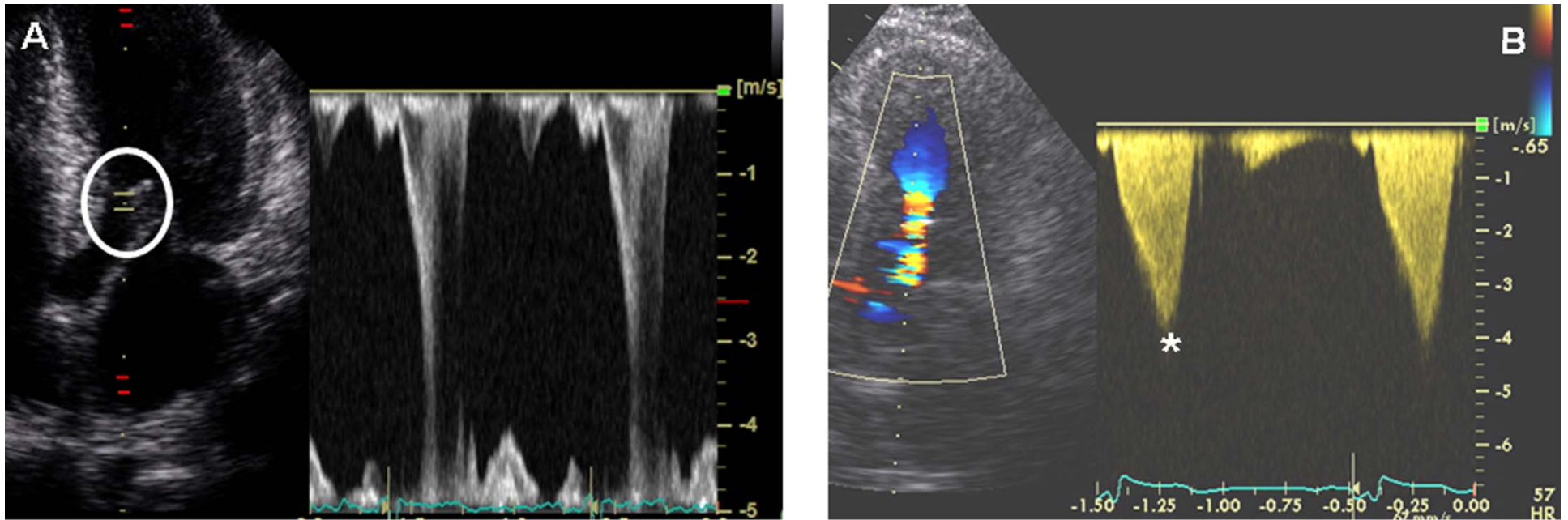


# **SUPPLEMENTAL MATERIAL**

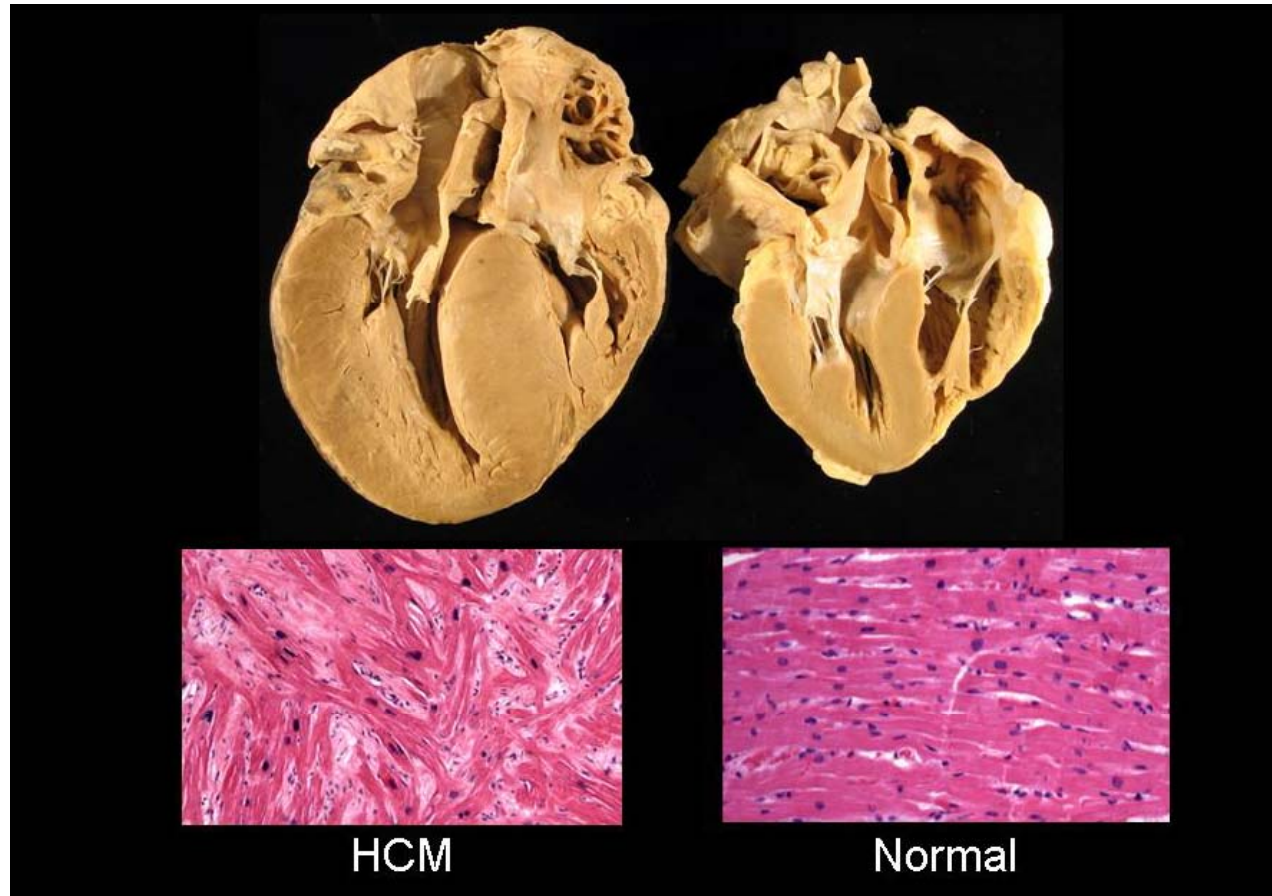
## Supplemental Figure 1



Obstructive physiology in HCM is characterized by 2D and Doppler interrogation from apical echocardiographic images.

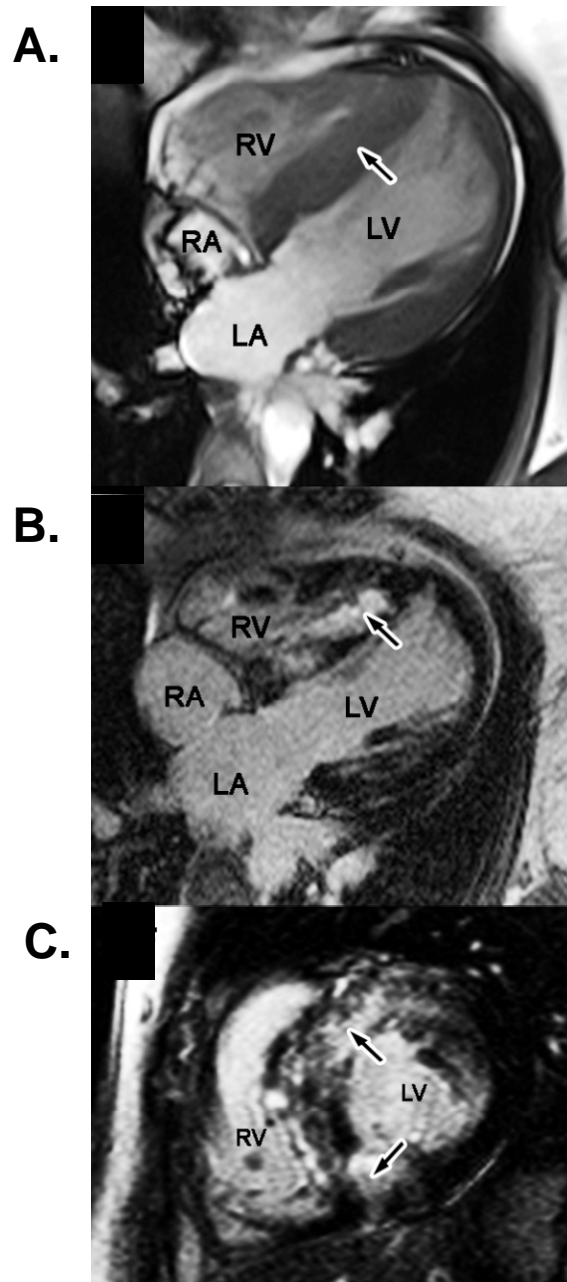
- A. 2-dimensional and pulse wave Doppler imaging identify the peak gradient, typically located at the site of maximal SAM-septal contact.
- B. Continuous wave Doppler is used to quantify obstructive physiology. The spectral profile shows the typical late-peaking flow acceleration due to SAM and dynamic obstruction. Peak LVOT velocity at rest is 4.1 m/sec (asterisk), indicating an outflow tract gradient of 68 mmHg.

## Supplemental Figure 2



Characteristic gross and microscopic pathological findings of HCM (left) are shown and compared to a normal heart (right). With HCM, there is marked left ventricular hypertrophy. Histologic sections (100x magnification) stained with hematoxylin and eosin demonstrate the pathognomonic features of myocyte disarray and fibrosis. In normal myocardium, there is an orderly arrangement of myocytes without fibrosis.

## Supplemental Figure 3



Cardiac magnetic resonance images showing the typical findings of HCM.

- A. Markedly thickened septum (arrow)
- B. Gadolinium contrast reveals bright, heterogeneous areas of late gadolinium enhancement (LGE; arrow). In this patient, LGE affects almost 50% of total LV mass.
- C. Mid-ventricular short axis image showing LGE involving the anteroseptum and the inferoseptum, the most frequently involved sites (around RV insertion).

RV=right ventricle, LV: left ventricle,  
RA=left atrium, LA=left atrium.

## **Supplemental Video Legend**

This parasternal long axis echo clip shows characteristic features of HCM. There is marked asymmetric septal hypertrophy and systolic anterior motion (SAM) of the mitral valve leading to mitral regurgitation (MR) and left ventricular outflow tract obstruction, displayed on color Doppler interrogation. Because of the anterior displacement of the mitral apparatus, MR caused by SAM is directed posteriorly. If mitral regurgitation is more centrally- or anteriorly-directed, intrinsic mitral valve disease (e.g. myxomatous changes with mitral valve prolapse, anomalous chordal structures, or abnormal papillary muscles) may be present and valvular morphology and function should be carefully scrutinized.