


# Cardiovascular MR

**SIEMENS**

How can I guide therapy  
more effectively with MRI? 



Cardiac MRI Case Report - HOCM

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# Hypertrophic Obstructive Cardiomyopathy (HOCM)

- 65 yo male presents for evaluation of HOCM prior to  
**septal ablation vs myectomy**  
for relief of left ventricular outflow tract (LVOT) obstruction.
- HOCM can cause sudden cardiac death due to ventricular arrhythmia from myocardial scarring

# Transthoracic echocardiogram

- Normal LV function
- Severe left ventricular hypertrophy
- Assymmetric septal hypertrophy
- Marked left atrial enlargement
- Mitral regurgitation with elevated filling pressures

# Cardiac Catheterization

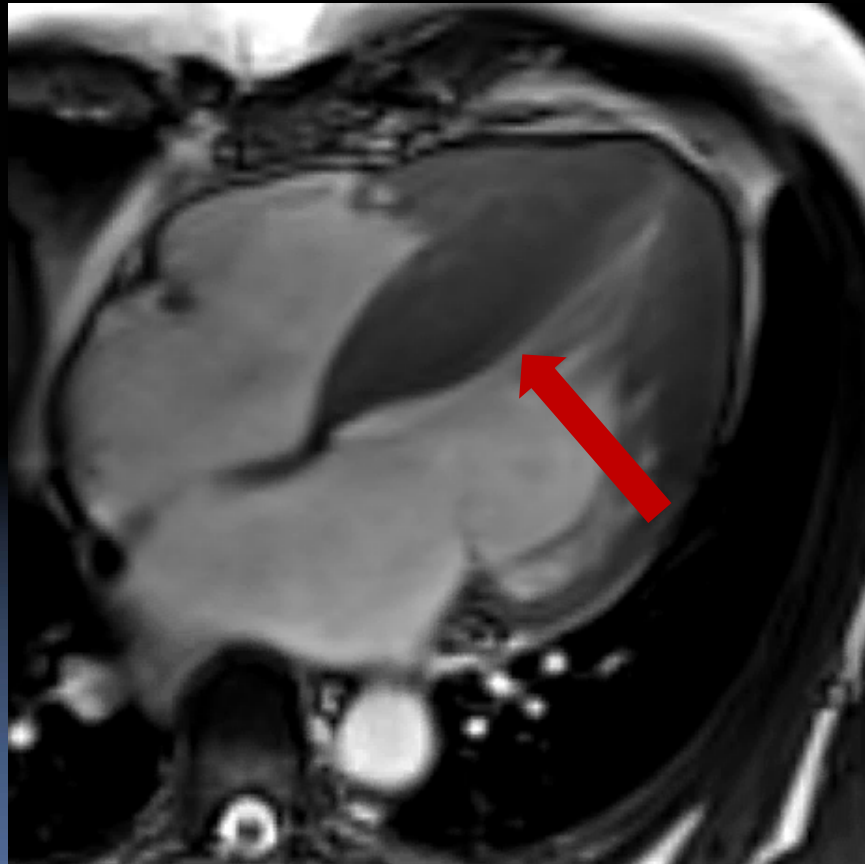
- Coronary Arteriogram : Mild coronary artery atherosclerosis without significant stenosis
- Left Ventriculography : EF=70% with distal apical hypertrophy

# Cardiac MRI

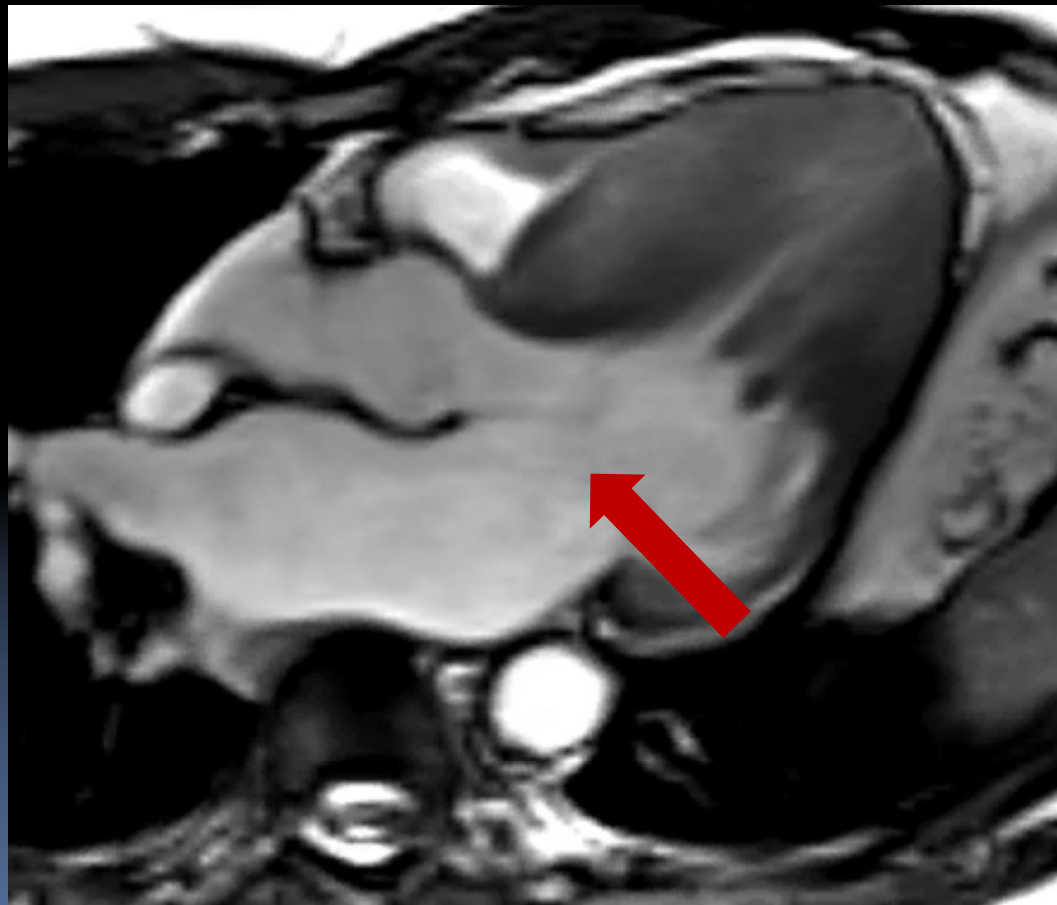
- Prominent asymmetric septal hypertrophy
- SAM (systolic anterior motion) of distal anterior mitral leaflet with resting LVOT obstruction
- Posteriorly directed mitral regurgitation
- Myocardial scarring and diminished mechanics corresponding to distribution of pathologic hypertrophy

# Prominent asymmetric septal hypertrophy

4 chamber true cine demonstrates septal thickening



SAM of distal anterior mitral leaflet with resting  
LVOT obstruction

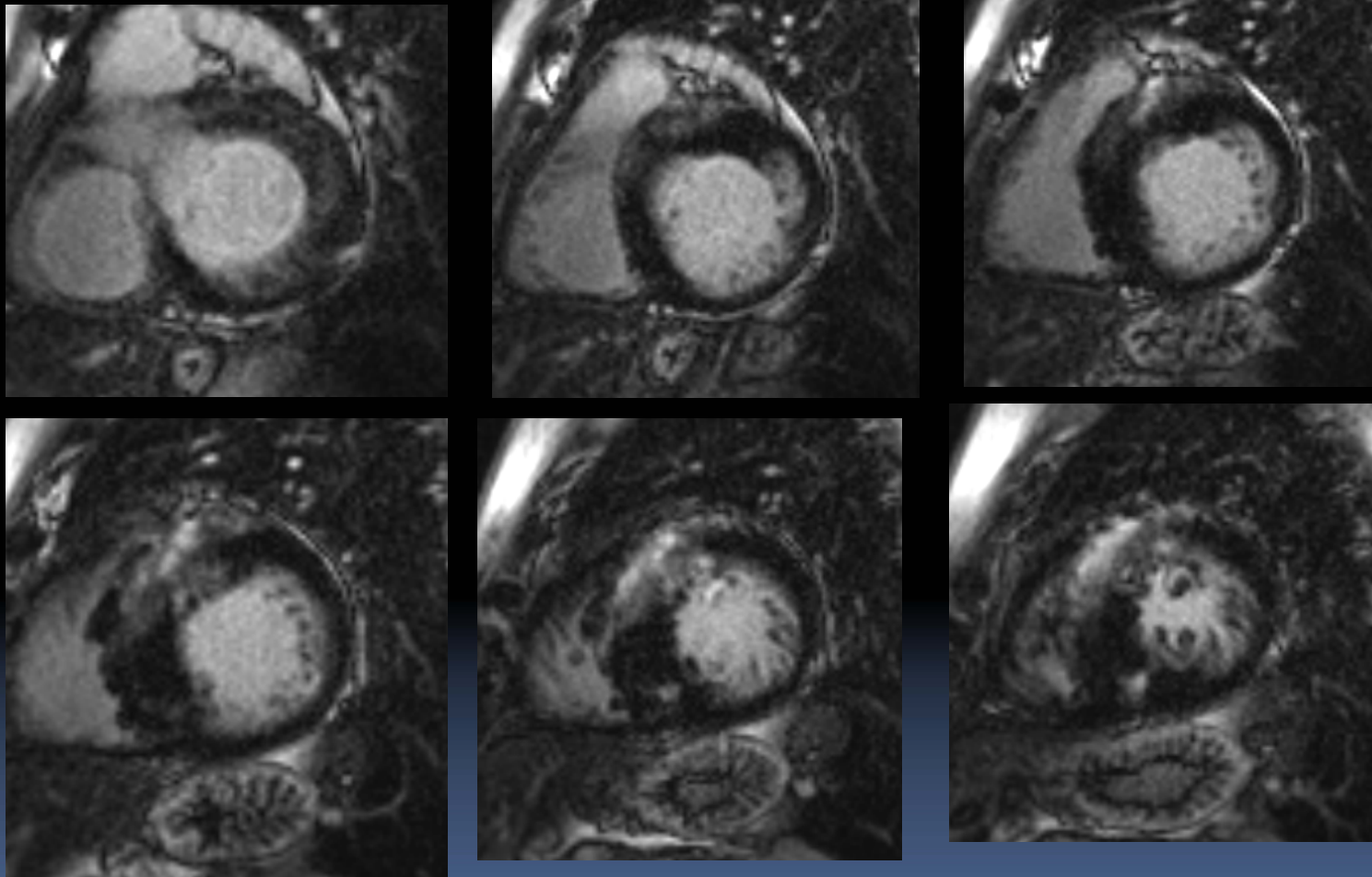


Diminished mechanics corresponding to distribution of pathologic myocardial hypertrophy and scarring



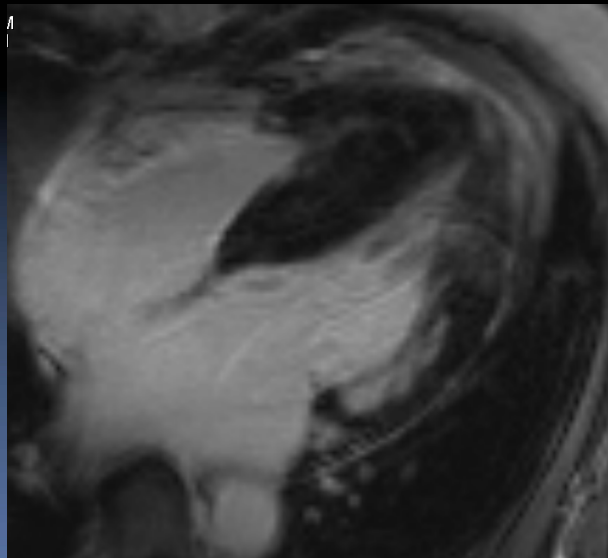
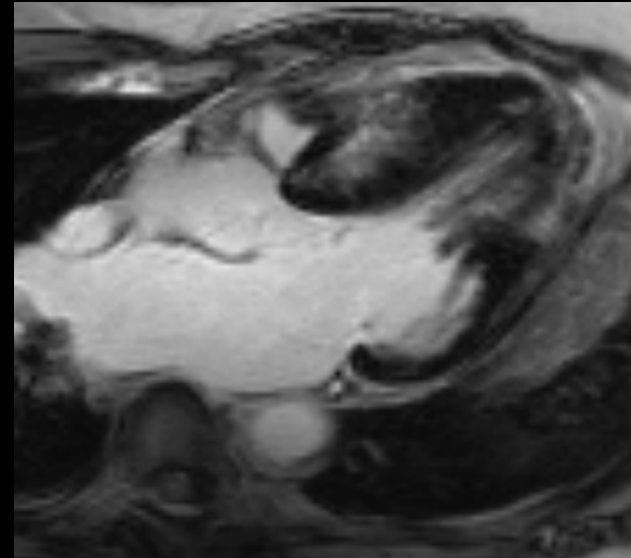
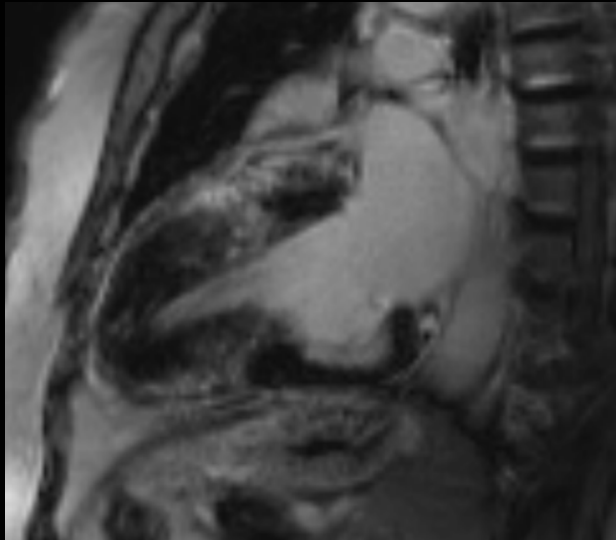
Short axis grid tagged cine demonstrates impaired septal strain

Myocardial scarring and diminished mechanics corresponding to distribution of pathologic hypertrophy



Short axis single shot images demonstrate septal scarring

## Myocardial scarring



2,3,4 chamber images demonstrate extent of myocardial scarring

After MRI the patient was sent for septal myectomy and in addition for placement of cardioverter defibrillator

# Improve diagnosis with Cardiovascular MRI and Siemens

**SIEMENS**

## **See smaller lesions of fibrosis**

- Better visualize e.g. fibrosis in cardiomyopathies

## **3-fold reduction in scan time**

- Global ventricular function in only one breath-hold thanks to high PAT factors and higher SNR

## **Easy detection of regional wall motion abnormalities**

- With 3T and Tim, tags are remaining throughout the whole cardiac cycle

