

55 year old gentleman presenting with clinical features of right sided heart failure.

ECG:

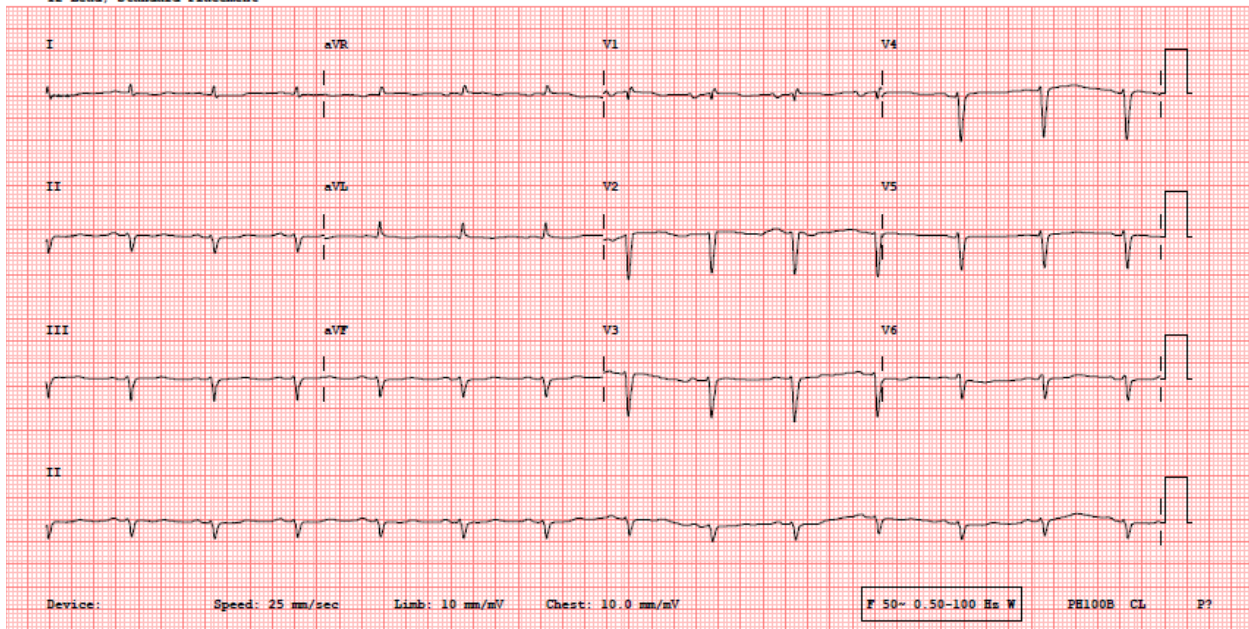
263942G                      SHOBHIT RAM                      21-Jul-15 6:25:42 AM  
55 Years                      Male                      CHC HOSPITAL, VELLORE  
DEPT OF CARDIOLOGY (CPU/ J WARD)

Rate 81 . Sinus rhythm  
         . Left anterior fascicular block  
PR 163 . Anterior infarct, old  
QRSD 95 . Nonspecific T abnormalities, lateral leads  
QT 532 . Prolonged QT interval  
QTc 618

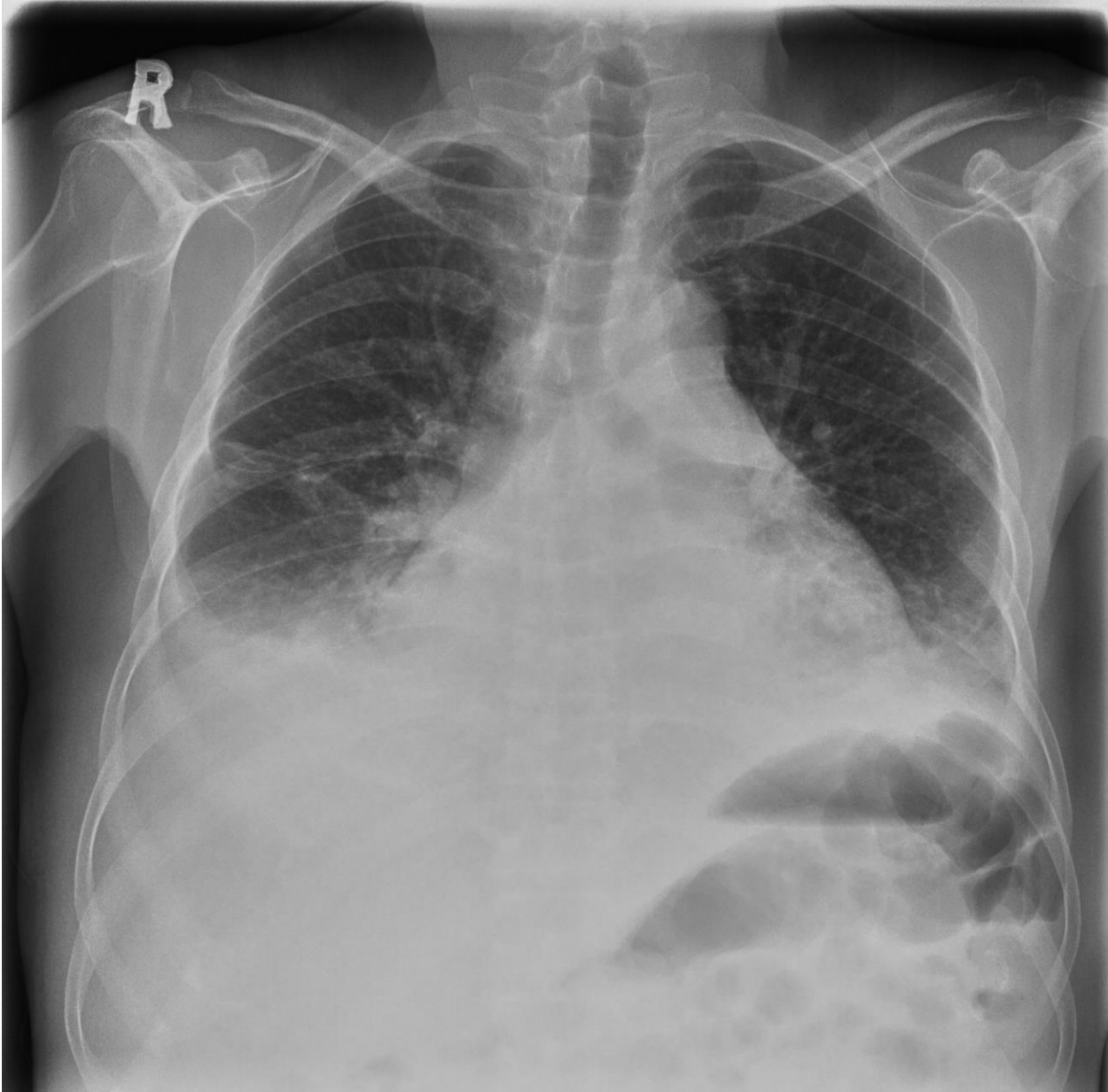
--AXIS--

P 54  
QRS -83  
T 118  
12 Lead; Standard Placement

- ABNORMAL ECG -

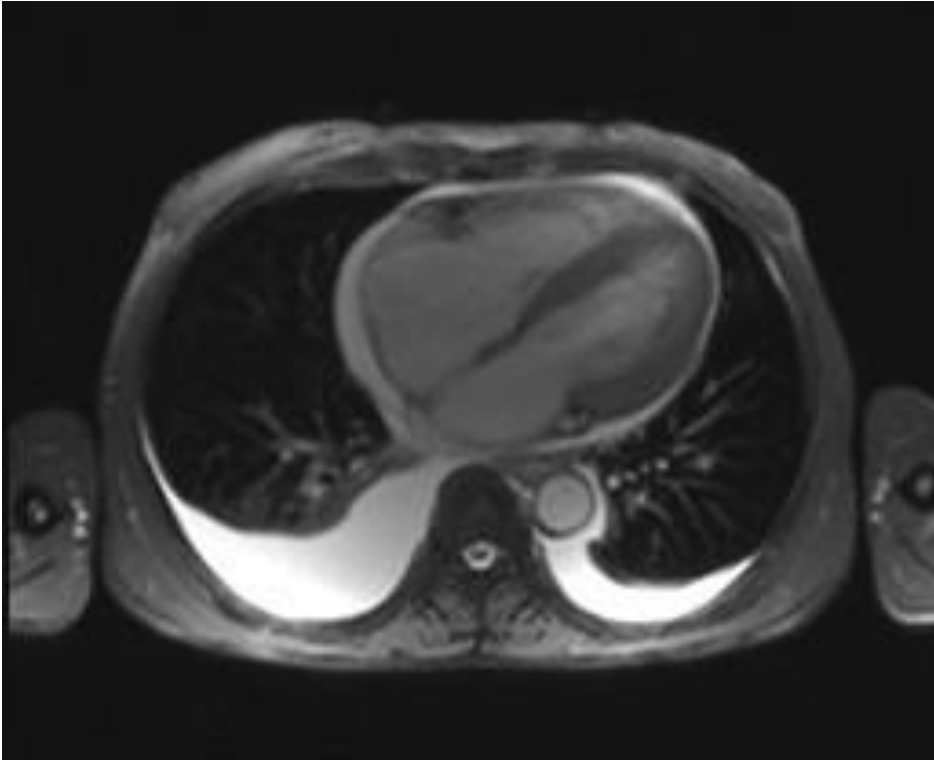


CXR

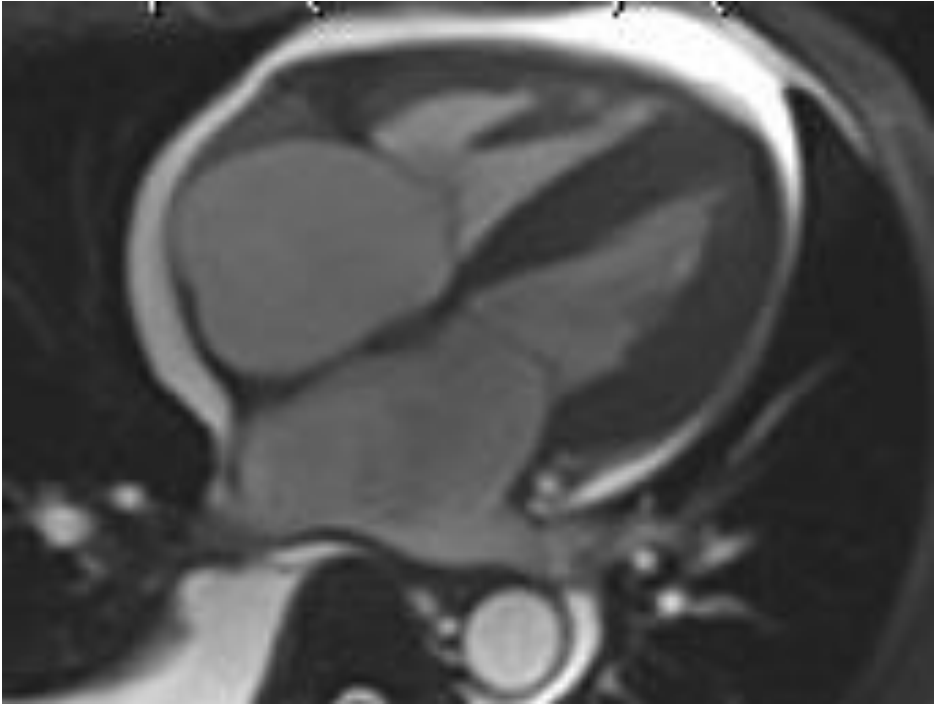


CARDIAC MRI

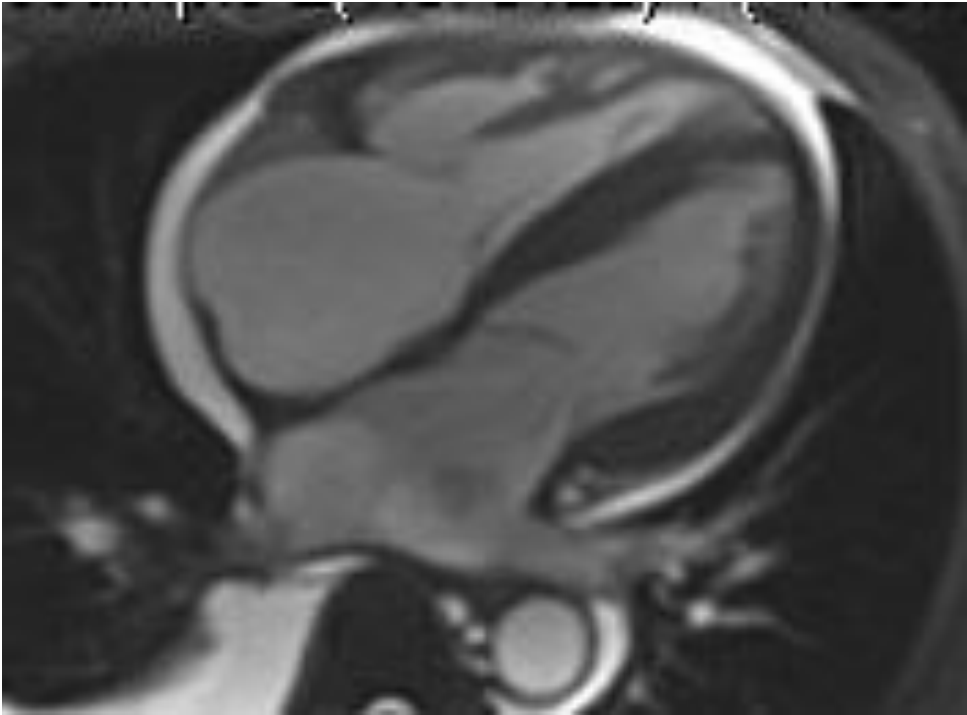
TRUFISP AXIAL



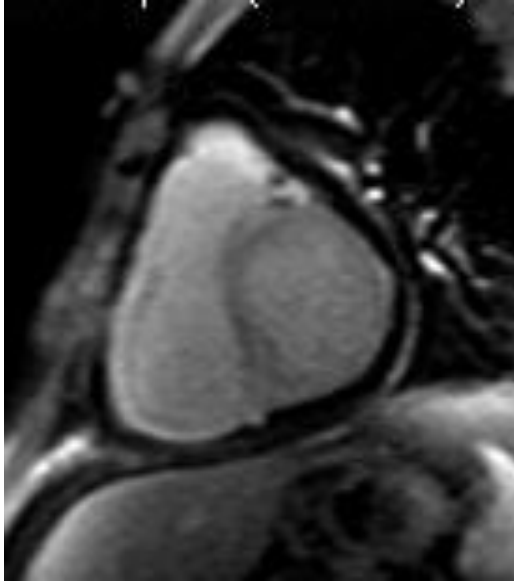
SSFP 4C IN END SYSTOLE



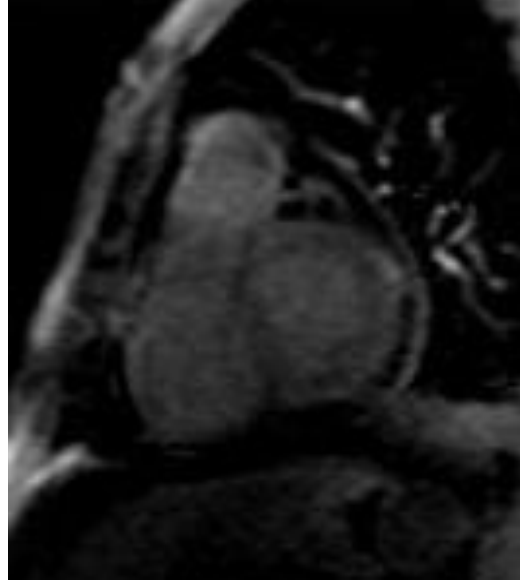
SSFP 4C IN END DIASTOLE



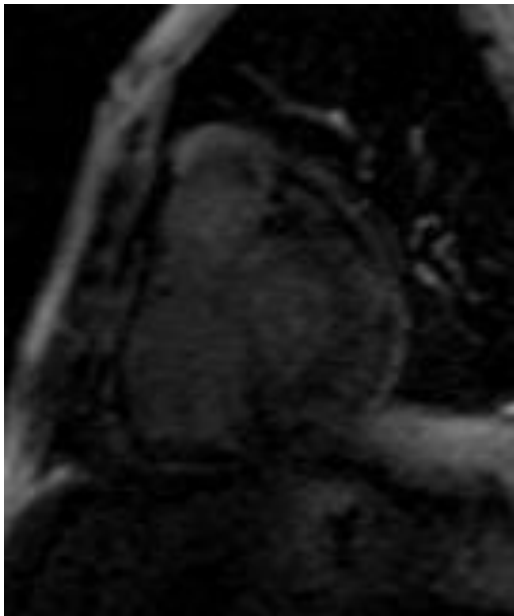
TIME OF INVERSION SCOUT (IMAGE 1)



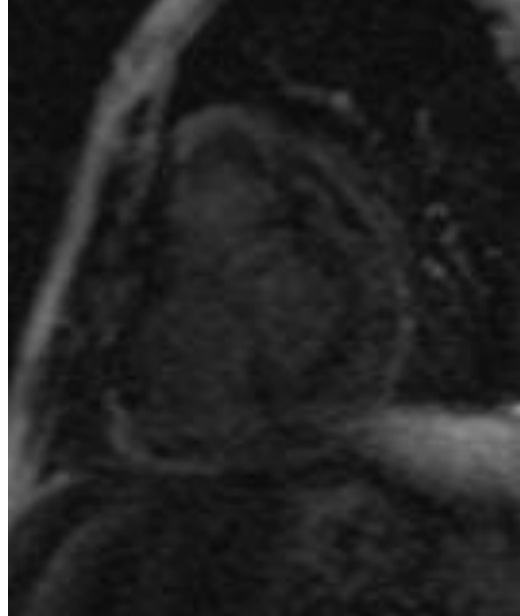
TIME OF INVERSION SCOUT (IMAGE 2)



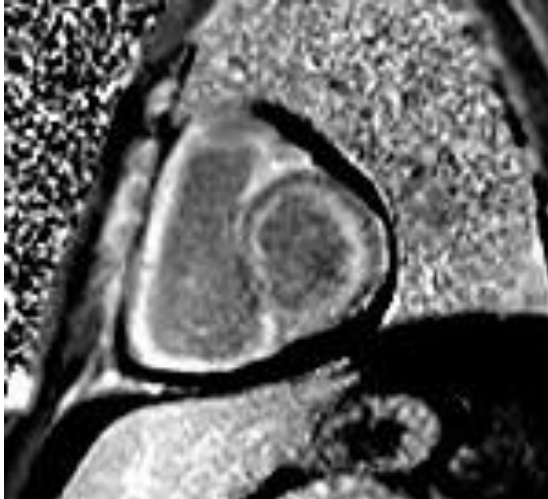
TIME OF INVERSION SCOUT (IMAGE 3)



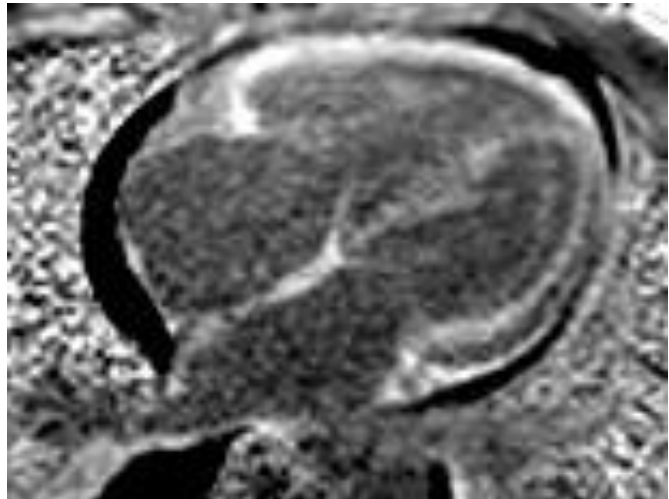
TIME OF INVERSION SCOUT (IMAGE 4)



PSIR AT 5 MIN SHORT AXIS



PSIR AT 5 MIN SHORT AXIS



#### QUESTIONS AND ANSWERS

Q1. Which sequence gives clue to the diagnosis?

ANS: Time of Inversion T1 scout

Q2. What is the finding in Time of Inversion T1 scout sequence?

ANS: a) It is difficult to correctly identify the time of inversion. b) The myocardium nulls before the blood pool.

Q3. When should we perform the inversion recovery T1W sequence for delayed enhancement?

ANS: At 5 min and 10 min post IV contrast injection

Q4. What is the finding specific in the delayed enhancement sequence in this case?

ANS: Global subendocardial diffuse hyperenhancement representing infiltration with amyloid protein, not confined to any arterial territory

Q5. What are the other findings seen?

ANS: Myocardial thickening, increased atrial septal thickness and left ventricular mass, thickened atrioventricular valves, biventricular diastolic dysfunction, pericardial effusion, pleural effusion. Lung changes of Amyloidosis may also be picked up.

Q6. Which underlying condition will you also rule out in a patient with this diagnosis?

ANS: Multiple myeloma or other monoclonal gammopathies

Q7. How will you confirm the diagnosis?

ANS: By obtaining histological material from biopsy of rectal mucosa or subcutaneous fatty tissue of the abdominal wall. Endomyocardial biopsy can also be done.

Q8. Which stain is used to diagnose Amyloidosis?

ANS: Congo red; Amyloid fibrils bind Congo red stain, yielding apple-green birefringence under cross-polarized light microscopy.