# F/ 57 C.C. : Chest Pain

Lab Findings

◈ CK/CK-MB/TnI : 76/<0.5/<0.035
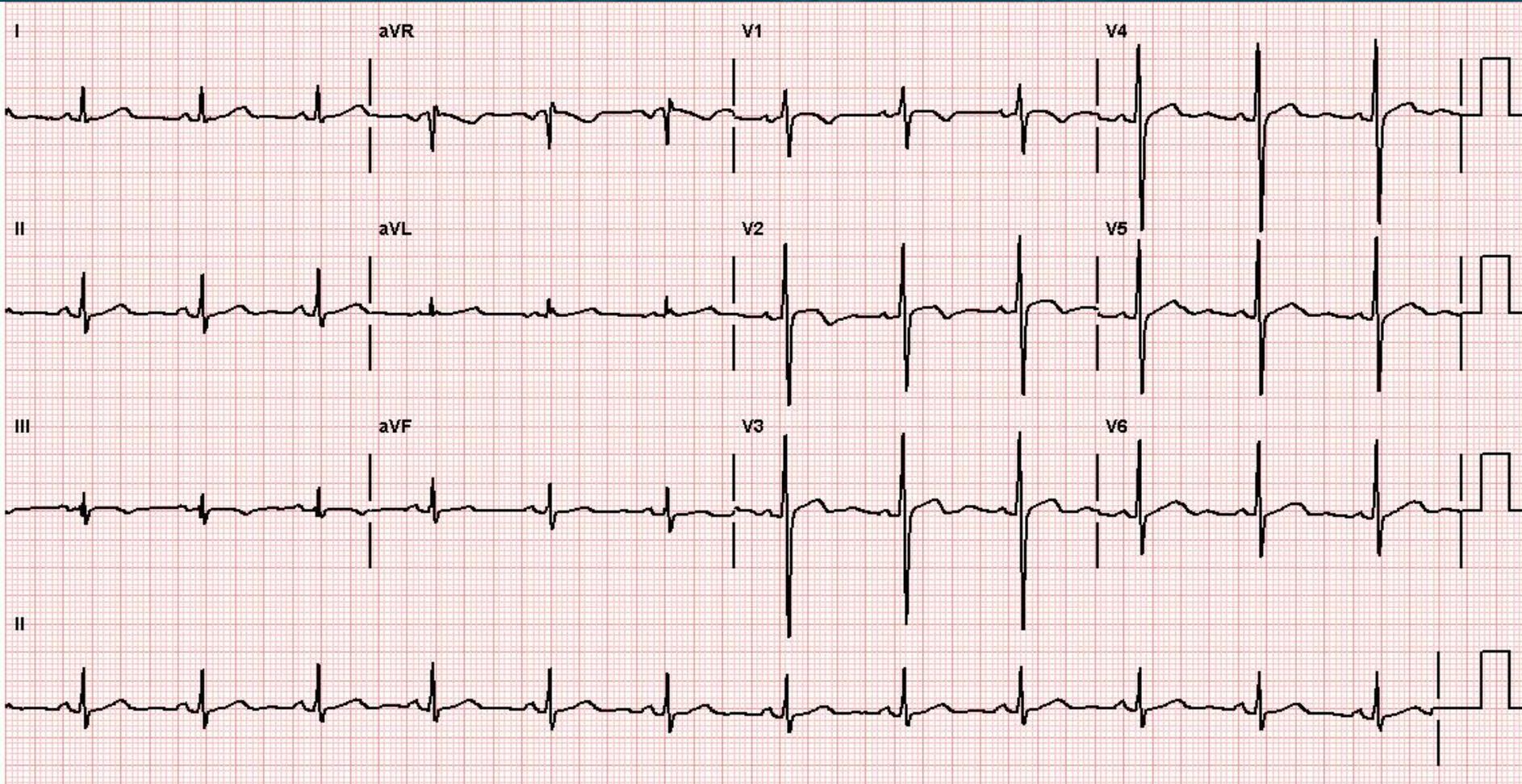
Angio + 3D Coronary artery
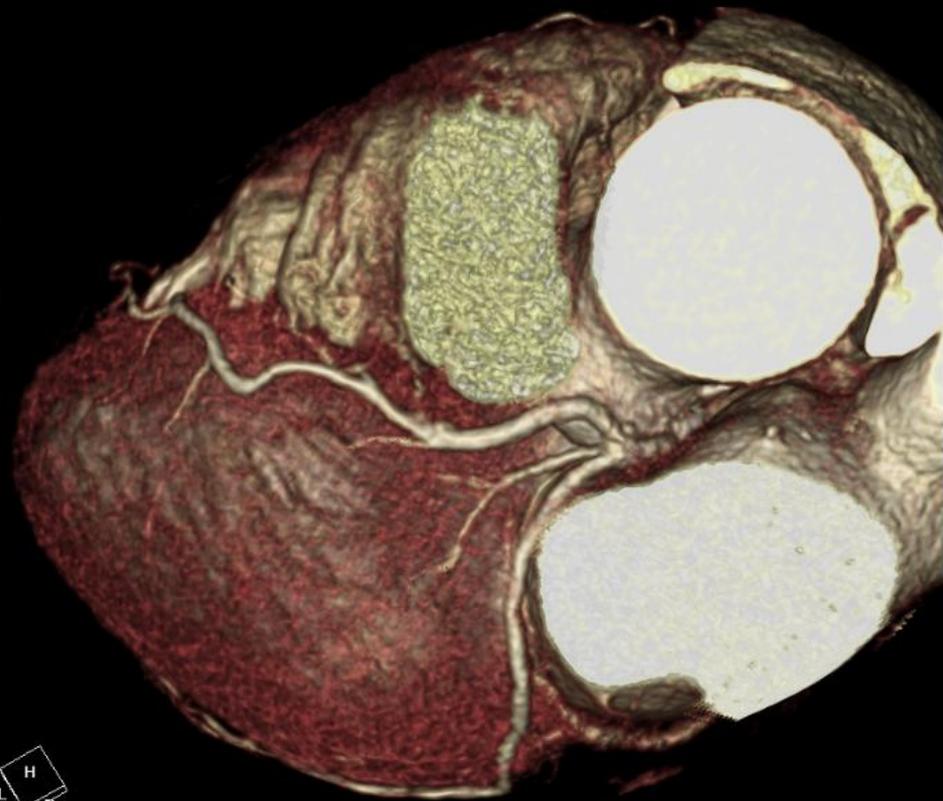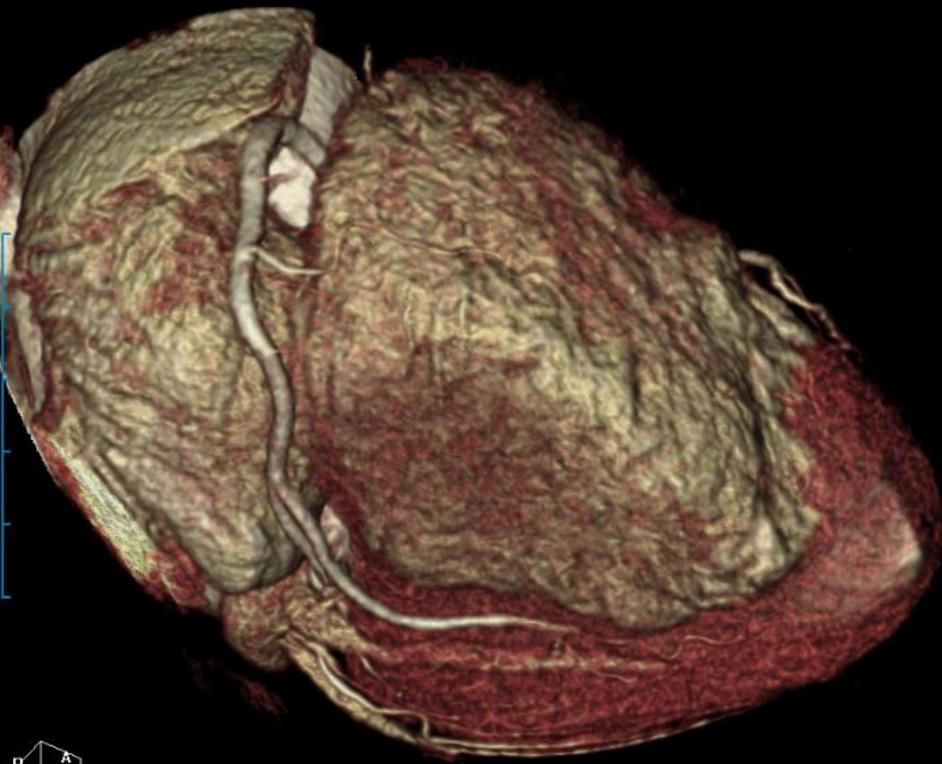
CAG
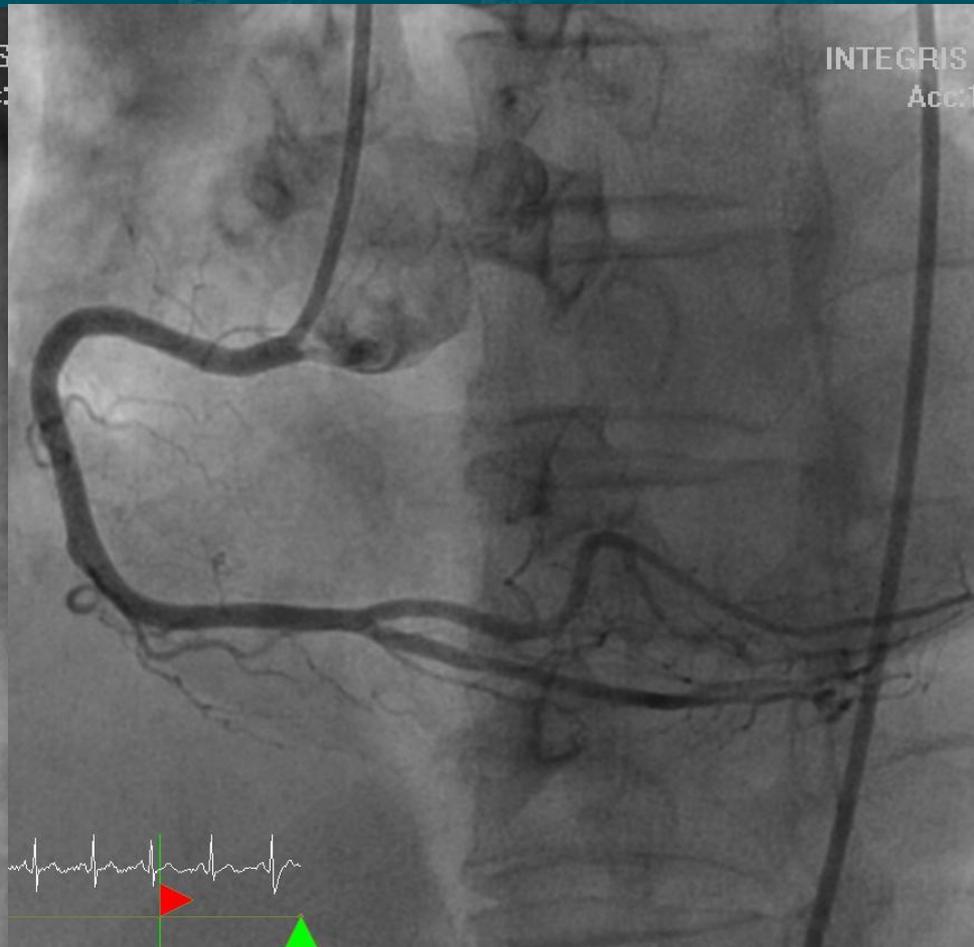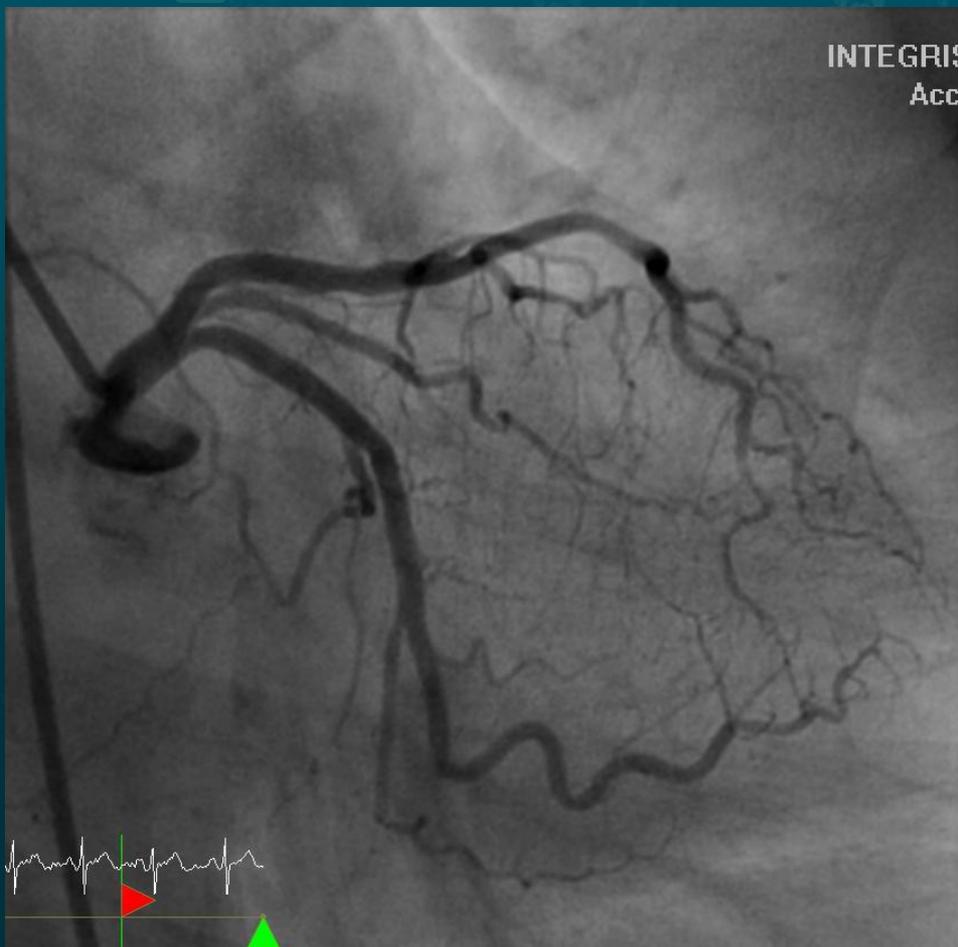
Heart perfusion MRI

Delayed Enhancement
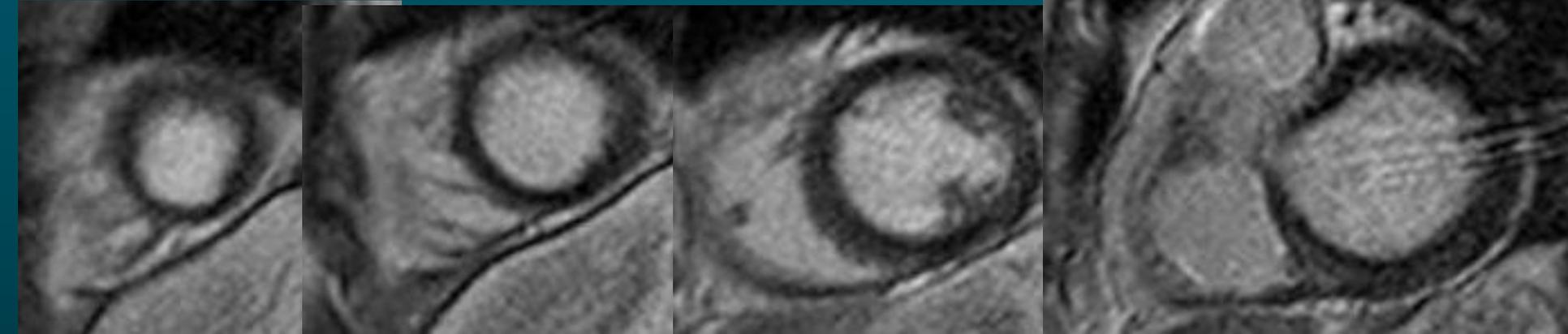
T2WI
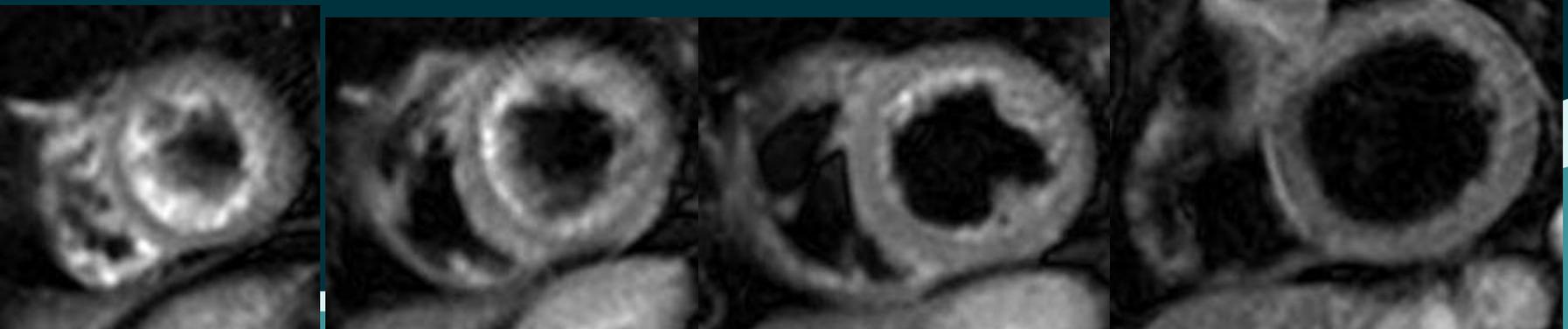
Heart perfusion MRI

REST

STRESS

Cardiac Syndrome X

- 10~20% of patients with typical anginal chest pain are found to have normal coronary angiography
  - Typical Angina
  - Abnormal exercise test (Downsloping ST segmental depression)
  - Normal coronary angiography

- MR Finding
  - *A Ring of Reversible Subendocardial perfusion defect*

- Clinical Outcome
  - Favorable prognosis but impared QOL
  - Sx. Improves only 1/3 of patients
  - About 20% of patients, angina worsen progressively during follow up

- Treatment
  - Beta blocker (1st line) → CCB, xantine derivates
  - Refractory angina episode : spinal cord stimulation
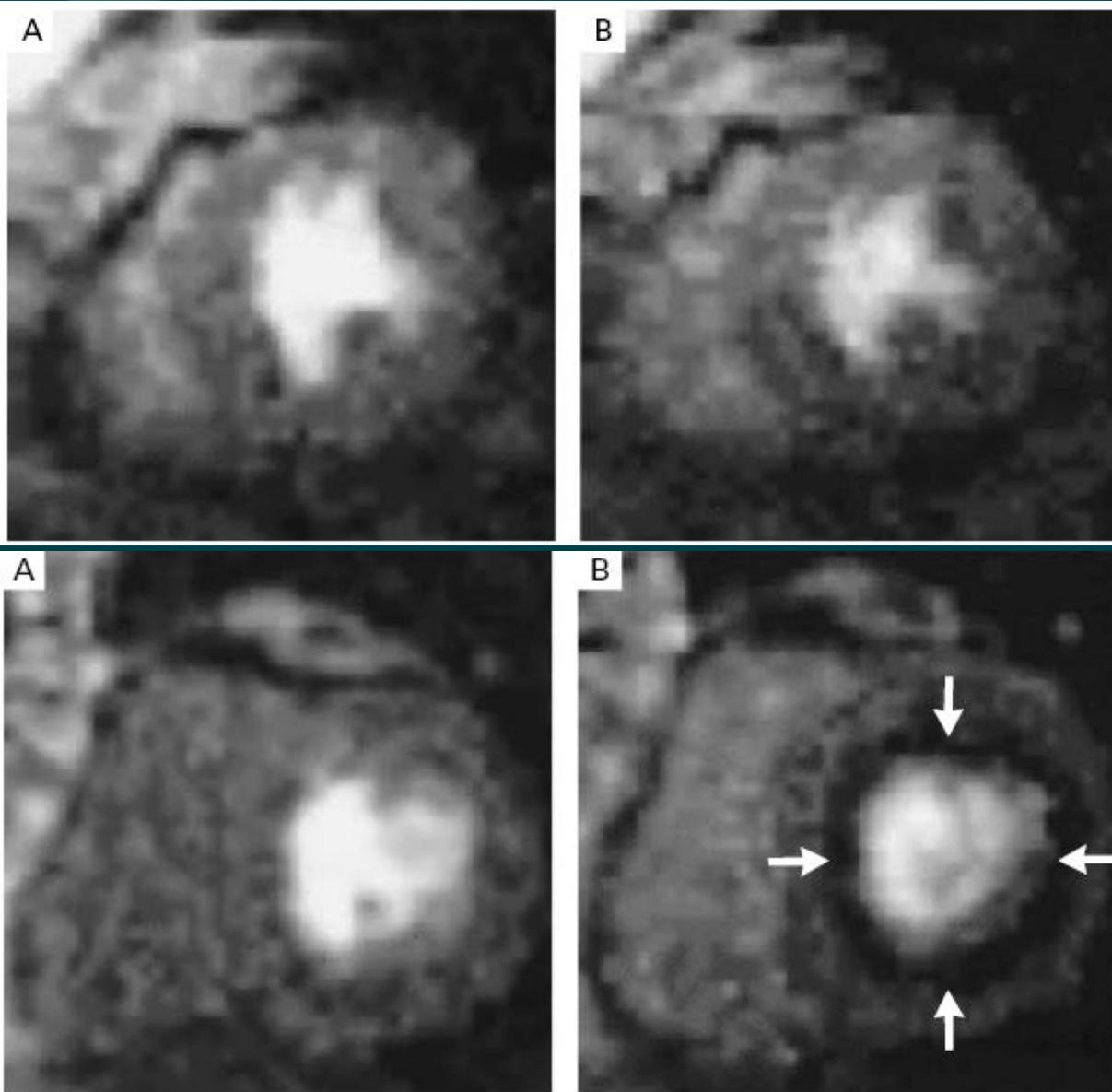
Images of Myocardium at Peak Myocardial Enhancement during the First Pass of Gadolinium in a Patient with Syndrome X at Rest (Panel A) and during Stress (Panel B).
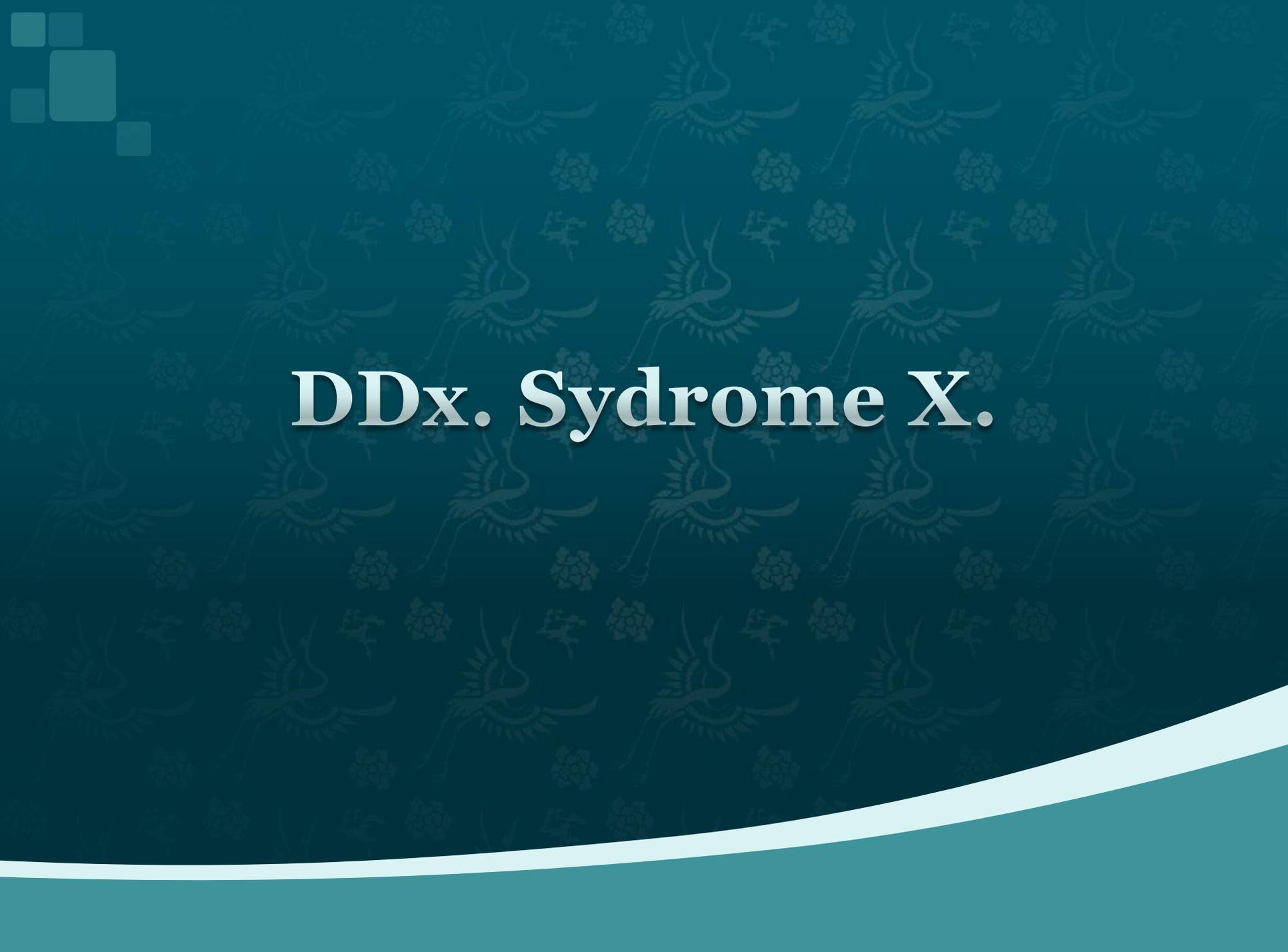
DDx. Sydrome X.

Balanced 3 vessel disease
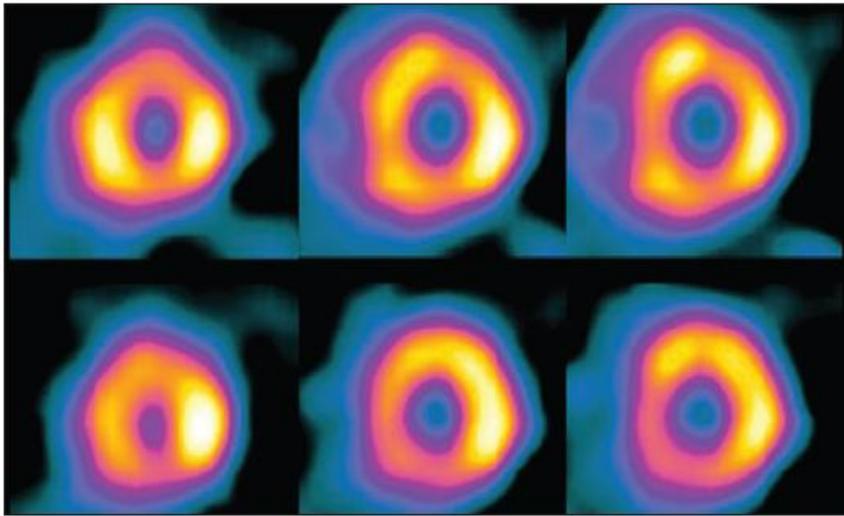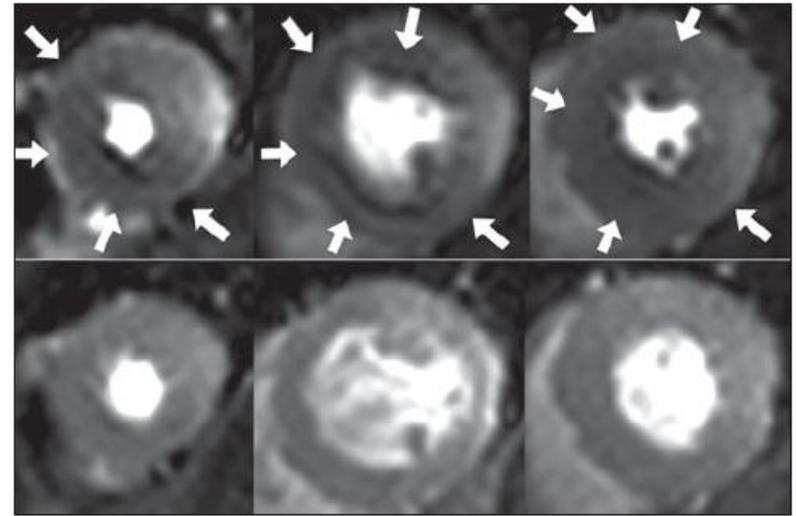
Fig. 2—60-year-old man with chest pain during exercise and angiographically proven three-vessel coronary artery disease.
A, 201TI SPECT images were obtained during stress (*top row*) and at rest (*bottom row*). No significant perfusion defect was noted.
B, First-pass perfusion MR images obtained during stress (*top row*) and at rest (*bottom row*). Perfusion MR images show reversible subendocardial perfusion defect at apico-midanterior, anteroseptal, inferoseptal, and inferior wall (*arrows*).
C and D, Coronary angiography was confirmed as significant stenosis in all three coronary arteries (*arrows*).
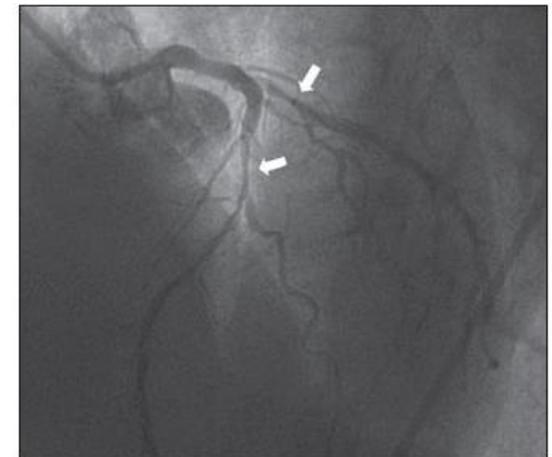
Balanced 3 vessel disease

MRI and SPECT in Coronary Artery Disease
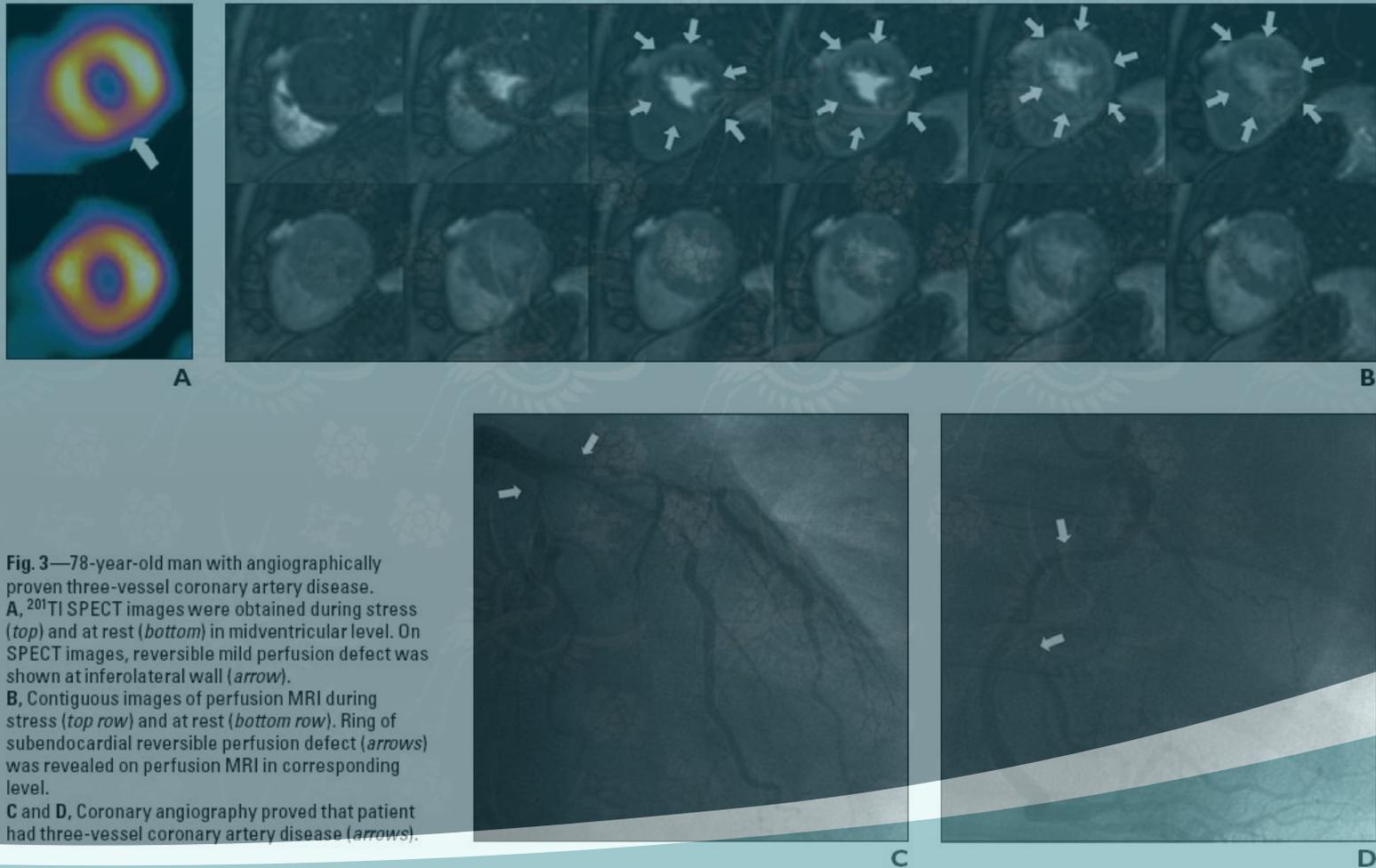
Fig. 3—78-year-old man with angiographically proven three-vessel coronary artery disease.
A, 201Tl SPECT images were obtained during stress (*top*) and at rest (*bottom*) in midventricular level. On SPECT images, reversible mild perfusion defect was shown at inferolateral wall (*arrow*).
B, Contiguous images of perfusion MRI during stress (*top row*) and at rest (*bottom row*). Ring of subendocardial reversible perfusion defect (*arrows*) was revealed on perfusion MRI in corresponding level.
C and D, Coronary angiography proved that patient had three-vessel coronary artery disease (*arrows*).

Concentric HCMP