



Coronary Bicameral Collusion by CMR

S. Rosmini, G Captur, A Herrey, H Swanton, JC Moon



Clinical History

- ✓ 55 yo Caucasian lady
- ✓ Typical chest pain
- ✓ CV examination: diastolic murmur at the left sternal edge
- ✓ PMH: mild hypercholesterolaemia
- ✓ ECG and TT ECHO: normal

Coronary Angiogram

Fig. 1

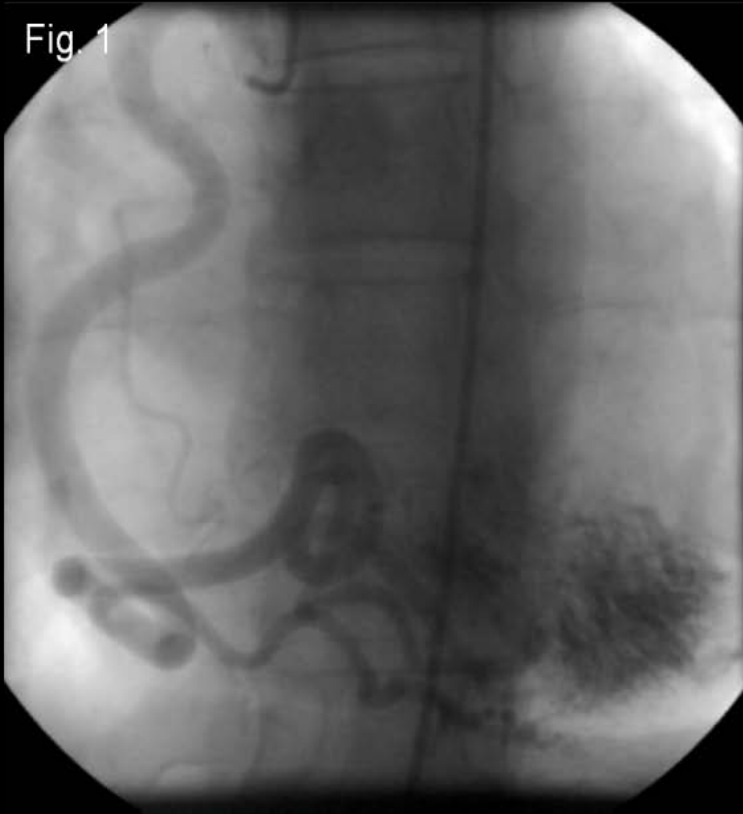
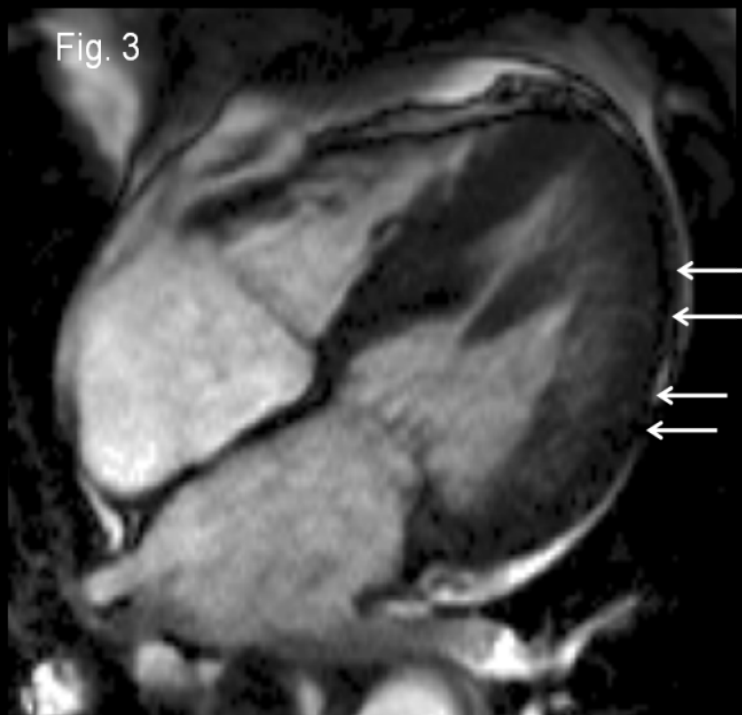
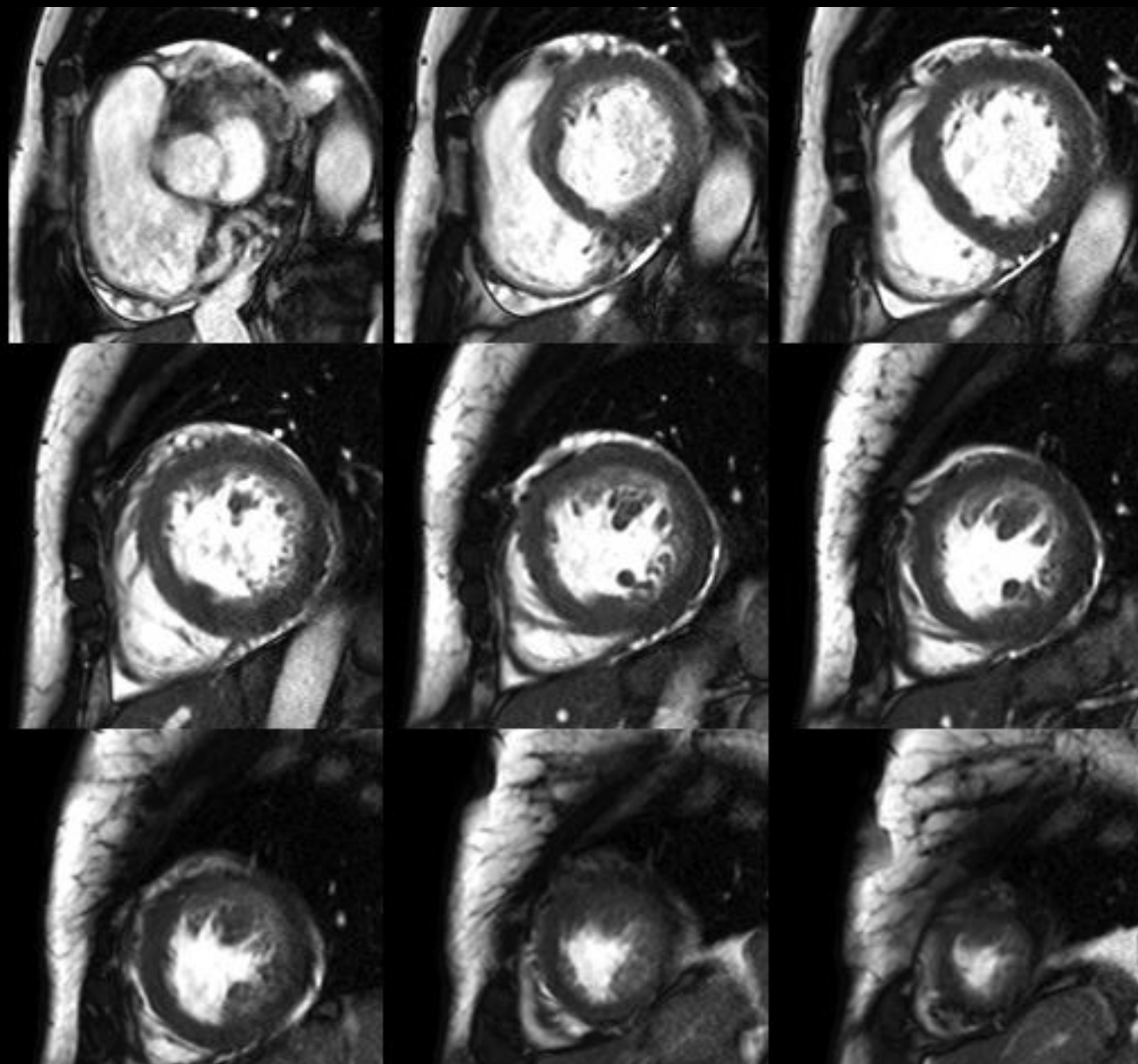


Fig. 2

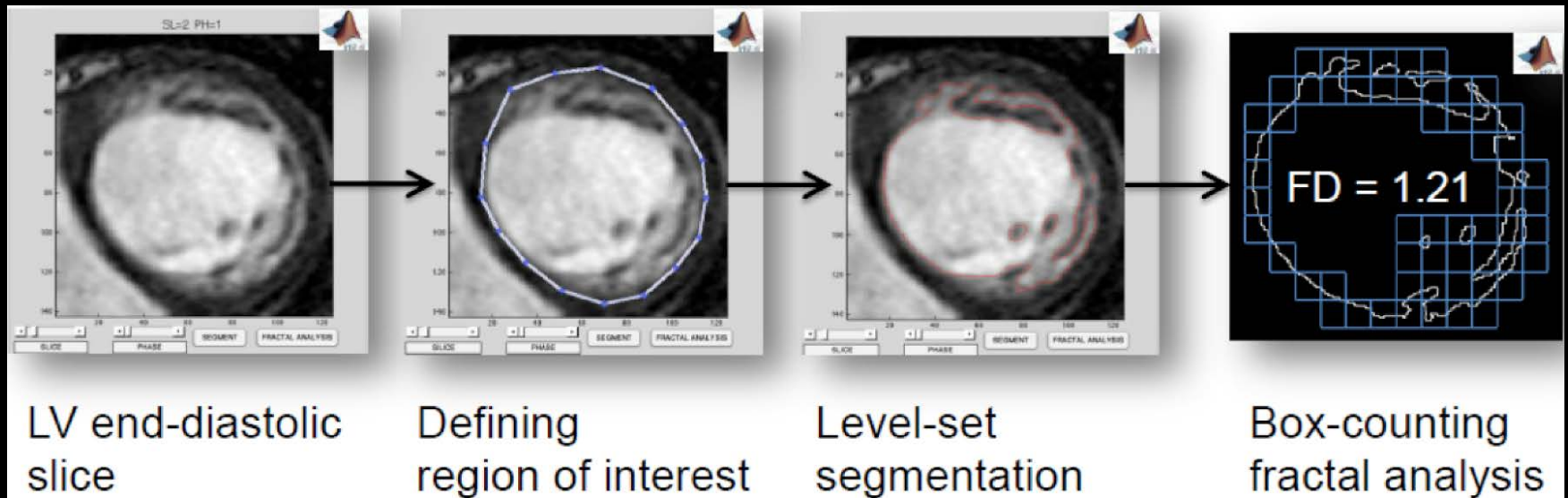


CARDIAC MAGNETIC RESONANCE



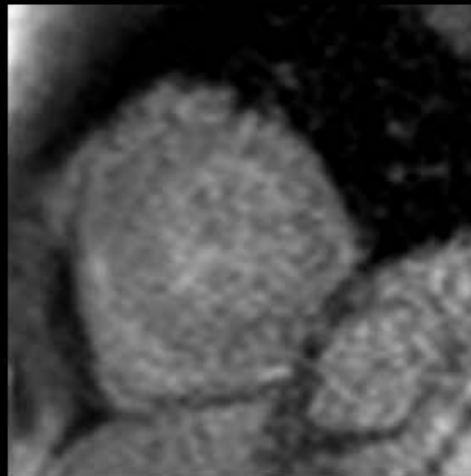
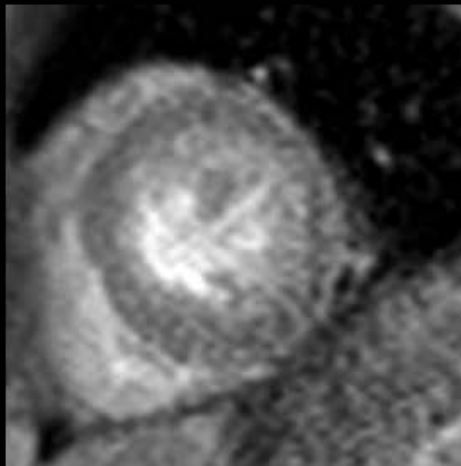
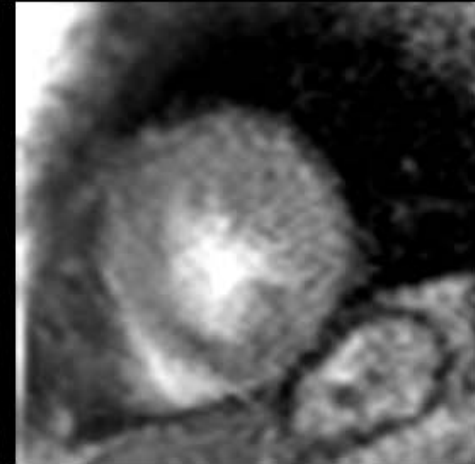
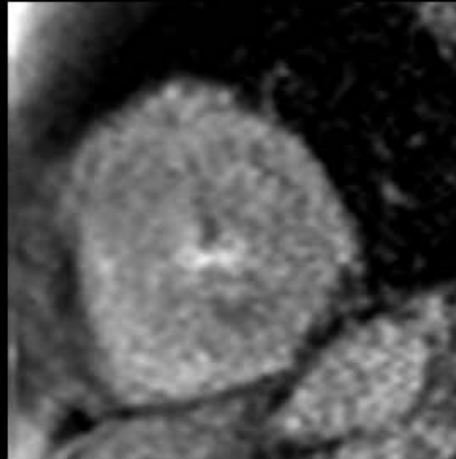
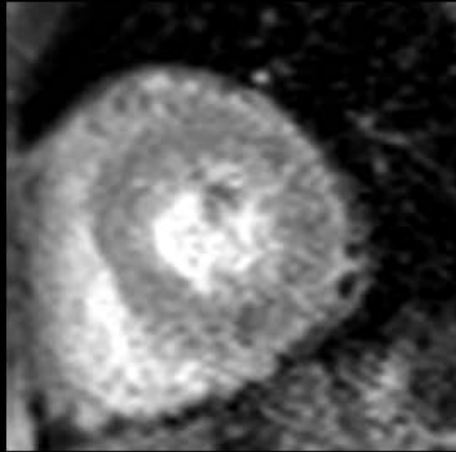


FRACTAL ANALYSIS

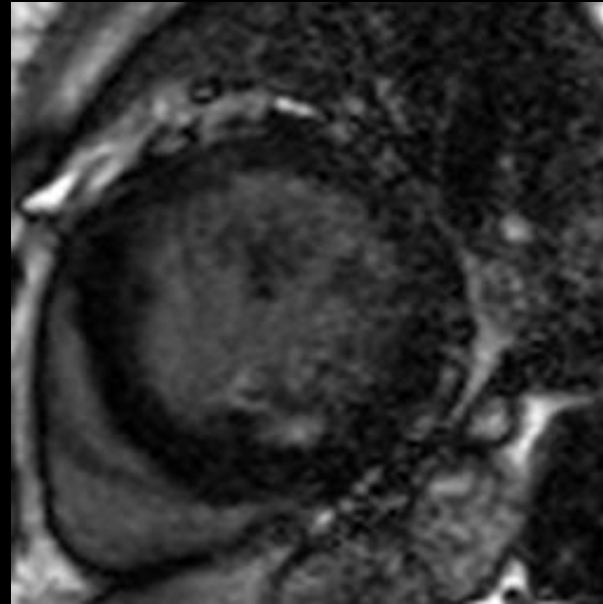
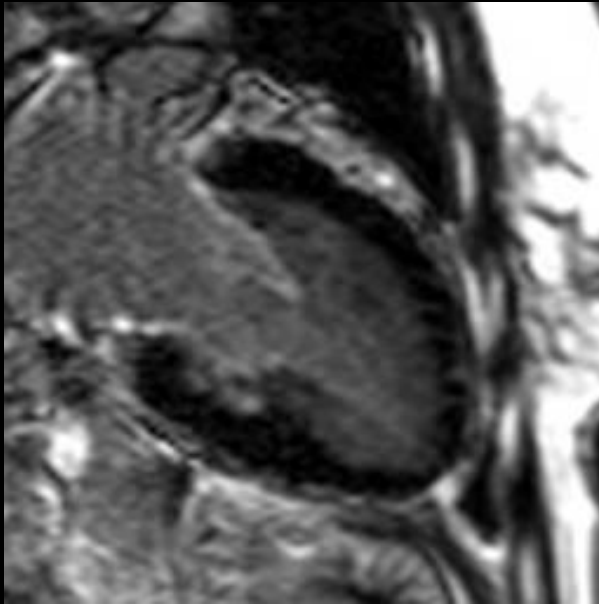


High fractal dimension of 1.323 for the apical half of the LV
(published normal values for Caucasians, 1.235 ± 0.004)

STRESS PERFUSION with ADENOSINE



LGE



Diagnosis

- ✓ **Very rare congenital malformation of the coronary drainage system**
- ✓ **Multiple coronary artery-biventricular microfistulae**
- ✓ **Associated with myocardial noncompaction**

Conclusion

- ✓ **CMR allows morphological diagnosis of microfistulae**
- ✓ **Quantification of trabecular complexity**
- ✓ **Detection of myocardial ischaemia, a frequent consequence of the fistulous bypass**
- ✓ **Patients with coronary artery LV fistulae most commonly present with angina potentially culminating in myocardial infarction, as in our patient**
- ✓ **Natural history and optimal management remain unclear, due to the relative rarity of the condition**