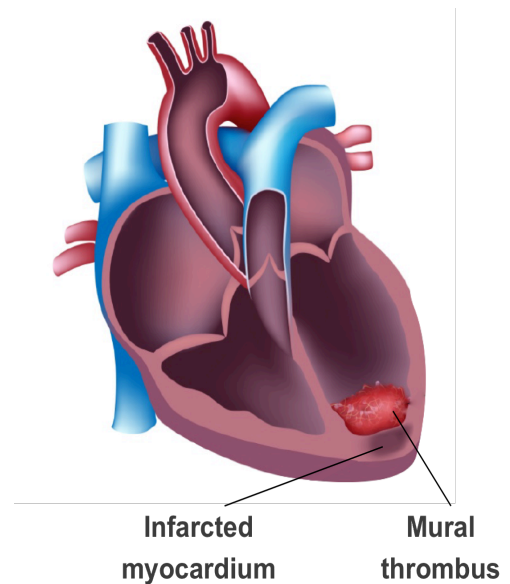




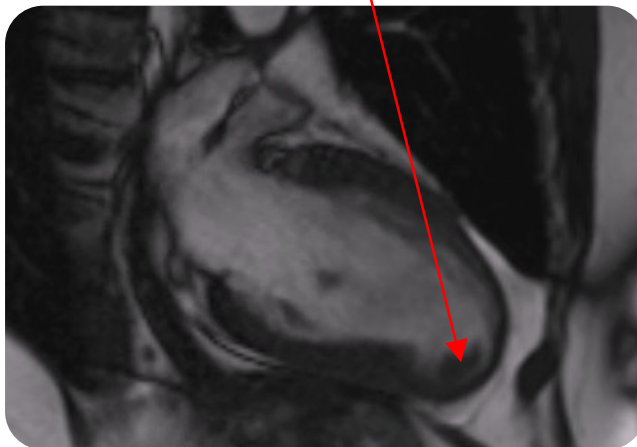
# Cardiac MRI Essentials

## Left ventricular thrombus

- Echocardiography is commonly used to assess patients for LV thrombus, but with variable reliability
- CMR offers high-resolution imaging without many of the limitations of echo
- Late gadolinium enhancement (LGE) CMR is particularly valuable, as LV thrombus is avascular (contrast absent)
- LGE CMR detects LV thrombus in 7% of patients with LV systolic dysfunction



Left ventricular thrombus may be visible on cine CMR imaging



However, the sensitivity for thrombus detection is greater with late gadolinium enhancement CMR



## Late gadolinium enhancement CMR

- Late gadolinium enhancement CMR will typically show a left ventricular thrombus as a dark mass (red arrow below) overlying an area of bright enhancement
- This indicates an area of myocardial infarction (bright enhancement) which has adherent thrombus (dark, as avascular and therefore no enhancement)



## How do we assess left ventricular thrombus with CMR?

- Look carefully for left ventricular thrombus in patients with left ventricular systolic dysfunction, particularly in those with an ischemic cardiomyopathy
- Carefully inspect cine CMR images for anatomical evidence of thrombus
- Best sensitivity with late gadolinium enhancement CMR images - thrombus is avascular and so contrast uptake is absent

## Further reading

Detection of left ventricular thrombus by delayed-enhancement cardiovascular magnetic resonance: prevalence and markers in patients with systolic dysfunction. *Journal of the American College of Cardiology* 2008; **52**: 148-157 [[click here to access online](#)]