TITLE	**Determining the mechanism of myocardial injury and role of coronary disease in type 2 myocardial infarction: DEMAND-MI**
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Background: Type 2 myocardial infarction occurs due to myocardial oxygen supply or demand imbalance, without coronary atherothrombosis. Although associated with poor prognosis, there is no consensus on the role of cardiac investigations or treatments.

Methods: Consecutive patients with acute myocardial injury were screened and patients with type 2 myocardial infarction had invasive or CT coronary angiography and cardiac MRI with late gadolinium enhancement. The primary outcome was the prevalence of coronary artery disease.

Results: We recruited 100 patients with a clinical diagnosis of type 2 myocardial infarction (65 [55-74], 57% male), following imaging 93 patients were adjudicated to have a type 2 myocardial infarction. Overall, 30% of patients (28/93) had obstructive coronary disease and 38% (35/93) had non-obstructive disease. Left ventricular systolic dysfunction was present in 34% (32/93), and a variety of structural abnormalities were detected including ischaemic cardiomyopathy (39%, 36/93), valvular (13%, 12/93) or hypertensive heart disease (9%, 8/93). Overall, coronary disease or left ventricular systolic dysfunction was previously unrecognised in 78% (56/72), with only 50% on evidence-based treatment.

Conclusion: Systematic cardiac imaging identified coronary artery disease in two-thirds of patients with type 2 myocardial infarction. This was previously unrecognized in the majority, identifying opportunities for the introduction of evidence-based therapies.

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