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CARDIOVASCULAR FLASHLIGHT

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Myocardial bridging causing infarction and ischaemia

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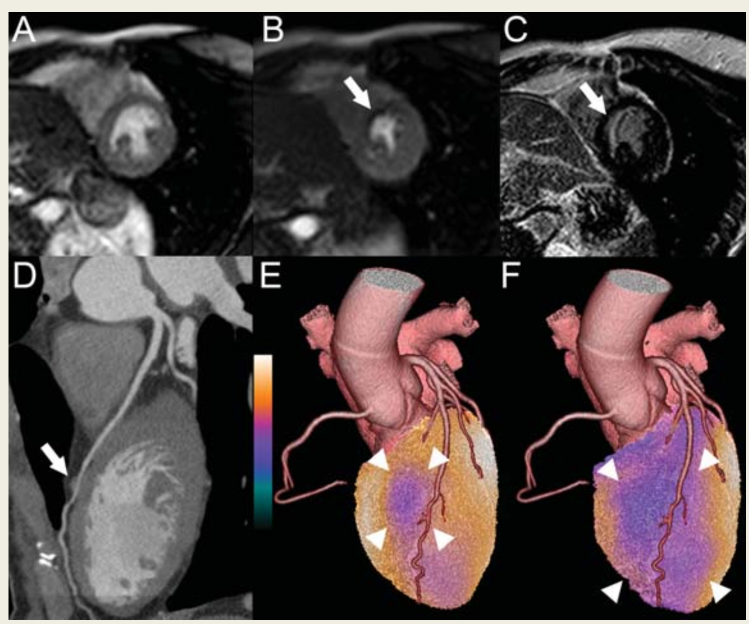

A 40-year-old woman with a long history of atypical chest pain and no cardiac risk factors was referred for cardiac work-up. Cardiac stress testing on a treadmill ergometer revealed T-wave inversion in leads V1–V3 and an intermittent left bundle branch block. The patient was subsequently referred to cardiac magnetic resonance imaging (MRI), which revealed normal myocardial perfusion at rest (*Panel A*). At maximum dobutamin stress (i.e. 85% of age-predicted maximum heart rate), impaired left ventricular contractility and delayed perfusion were observed in the anteroseptal myocardium (*Panel B*), indicating myocardial ischaemia. Delayed imaging revealed late enhancement in the subendocardial anteroseptal myocardium (arrow in *Panel C*), indicating a non-transmural myocardial scar. Invasive coronary angiography showed normal coronary arteries without systolic compression (images not shown); however, computed tomography coronary angiography (CTCA) revealed a myocardial bridging in the middle segment of the left anterior descending artery (arrow in *Panel D*). Finally, hybrid CTCA/^{99m}Tc-Tetrofosmin single-photon emission computed tomography images were acquired using a 1-day dobutamin-stress/rest protocol, which confirmed MRI results by displaying a partially reversible perfusion defect (ischaemia) in the anteroseptal myocardium (demonstrated by the arrowheads in *Panel E* at rest, *Panel F* at dobutamin stress).

This case illustrates a haemodynamic relevant myocardial bridging, causing a non-transmural myocardial infarction and a stress-induced myocardial ischaemia in a young female patient. The patient was subsequently treated with calcium-channel blockers and reported reduced chest pain in the clinical follow-up.