

IMAGE FOCUS

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First magnetic resonance coronary artery imaging of bioresorbable vascular scaffold in-patient

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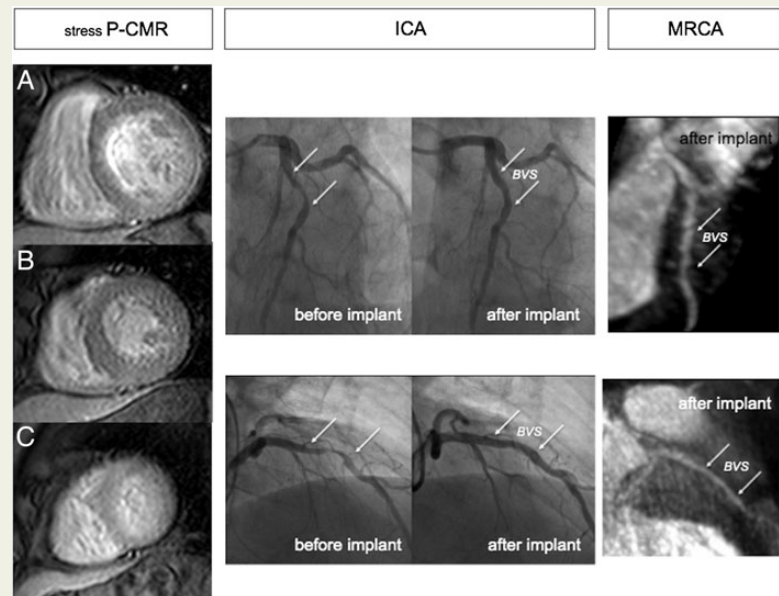
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A 39-year-old man, active smoker with a history of hypercholesterolaemia, was referred for invasive coronary angiography for ST-segment elevation acute coronary syndrome. Coronary angiogram showed complete occlusion of the left anterior descending artery (LAD). Thromboaspiration was successfully performed with TIMI 3 flow at the end of the procedure. Therefore, no stenting procedure was immediately performed, and a control coronary angiography was performed 7 days after the onset of dual antiplatelet therapy due to recurrent ischaemia (exertional dyspnoea). The second coronary angiogram revealed a significant stenosis (>70%) and highly unstable (angiographic signs of possible thrombus) on mid-LAD, which was treated with a second-generation absorb bioresorbable vascular scaffold (BVS; Abbott Vascular, Santa Clara, CA, USA; size 3.5 × 18 mm). At 6-month follow-up, rest and dipyridamole stress perfusion cardiac

magnetic resonance (P-CMR) imaging revealed normal perfusion and magnetic resonance coronary artery imaging (MRCA) demonstrated the absence of significant residual stenosis on the target LAD lesion, this finding being further confirmed by conventional coronary angiography (Figure 1). We presently report the first demonstration of MRCA ability to rule out BVS restenosis. No artefacts were noted with the two platinum markers located at each BVS edge. BVS is particularly interesting for long proximal lesions on the main epicardial vessels in young patients. Proximal implantation of BVS may improve the performance of MRCA, since percentage of interpretable image quality is higher for the proximal and middle coronary artery segments by MRCA than the distal segments. Therefore, MRCA+P-CMR appears to be a very promising tool for coronary revascularization follow-up in specific populations.

Figure 1 Stress P-CMR imaging (A: base slice; B: mid-slice; and C: apical slice) and MRCA were reported normal; coronary angiogram confirmed no in-stent restenosis of BVS. The arrows delimit the stenosis and BVS implanted. BVS, bioresorbable vascular scaffold; ICA, invasive coronary angiography; MRCA, magnetic resonance coronary artery imaging; P-CMR, perfusion cardiac magnetic resonance.



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