

FIGURE 1

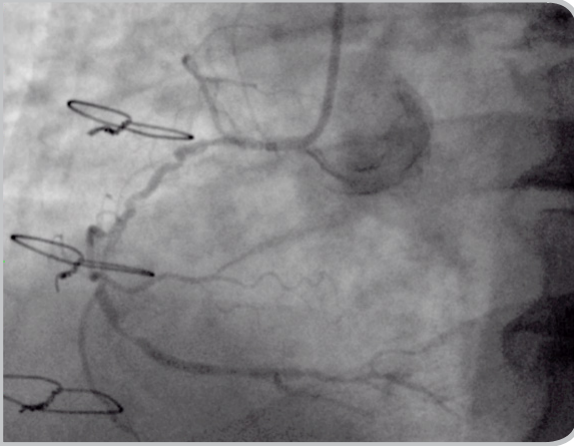


FIGURE 2

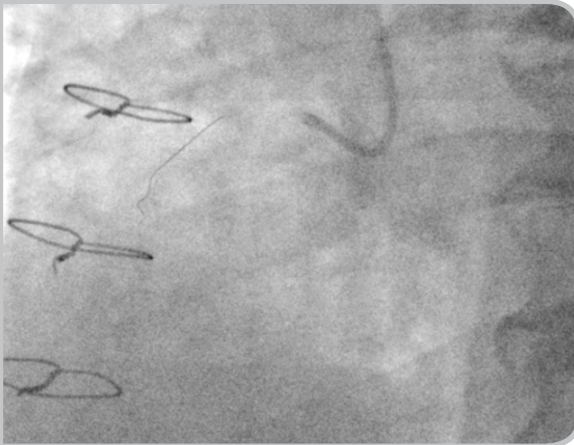


FIGURE 3

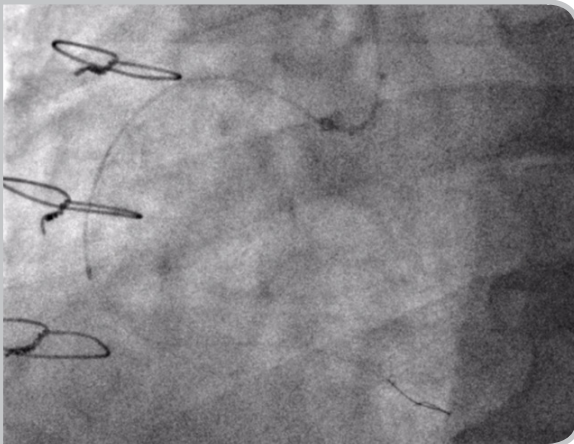
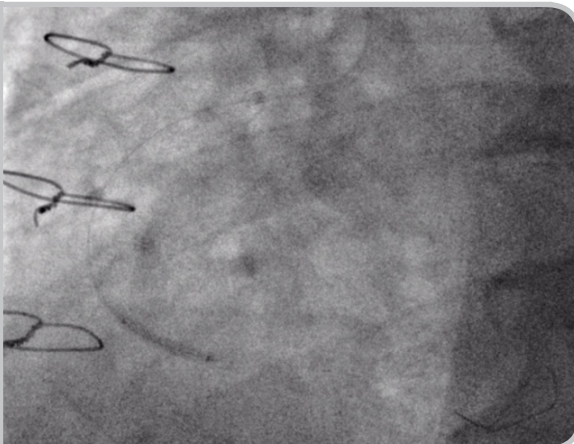


FIGURE 4



Turnpike Gold and Twin-Pass Catheters for Recanalization of a Tortuous and Heavily Calcified RCA

PHYSICIAN

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PATIENT HISTORY AND PRESENTATION

A male patient presents with Canadian Class III angina six years post 4-vessel CABG to the RCA, obtuse marginal, diagonal and LAD. Stress myocardial perfusion imaging demonstrated a large reversible defect in the RCA distribution involving 12% of the myocardium.

INITIAL FINDINGS

Coronary angiography revealed a recanalized occlusion of the RCA, with a long, highly tortuous segment of calcific disease in the proximal RCA, which was dominant. The RCA filled in a predominantly antegrade fashion with some limited contribution from septal collateralization (Figure 1).

TREATMENT

The procedure was performed via a right radial artery approach using an AR II guide catheter. The lesion was wired with some difficulty using a Sion® Black polymer guidewire (Figure 2). It was not possible; however, to subsequently pass even the smallest MINI TREK® 1.2 x 20mm balloon.

A hard-tipped, threaded Turnpike Gold catheter was therefore advanced through the lesion using clockwise torque (Figure 3). After retraction (using anti-clockwise rotation) it was then easy to pass a larger 2.5 x 20mm Emerge® PTCA balloon (Figure 4).

After balloon angioplasty it was challenging to access the posterior descending artery of the RCA due to marked angulation. Use of the Twin-Pass catheter enabled easy wiring and thus protection of this branch (Figure 5).

(continued on back)

FIGURE 5

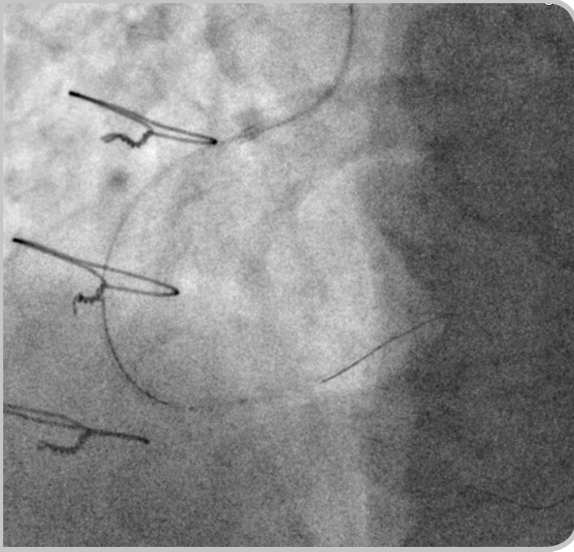


FIGURE 6

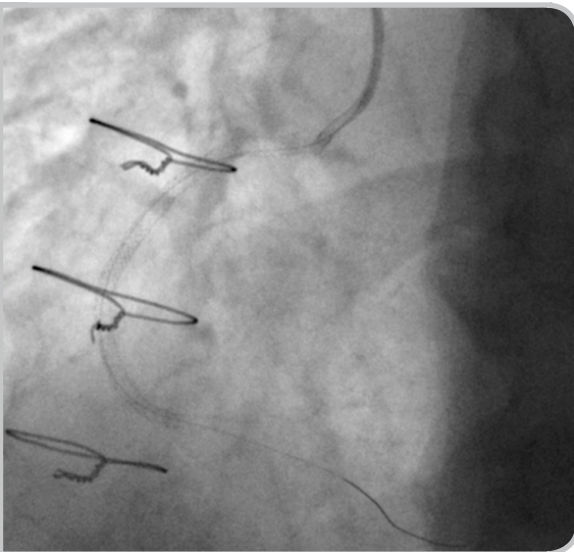
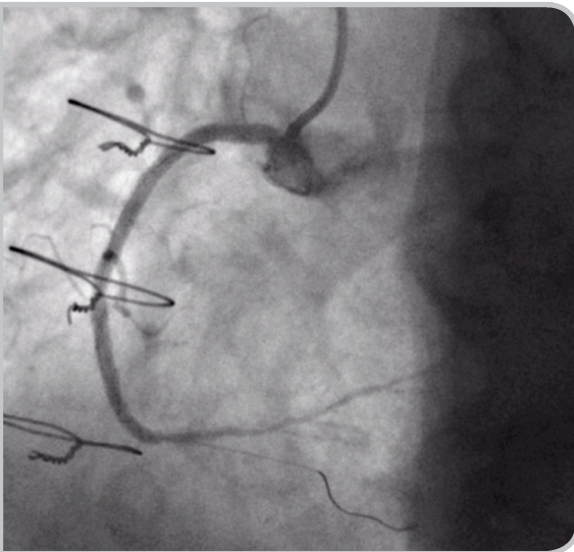


FIGURE 7



TREATMENT (CONTINUED)

Dilation of the occlusive segment was then performed using a 3 x 15mm compliant balloon inflated to 16 atm serially.

Three Promus® drug-eluting stents (3.0 x 38mm, 3.5 x 38mm, 3.5 x 16mm) were deployed proximally and post-dilated to 3.5mm under IVUS guidance (Figure 6).

FINAL RESULT

A good final angiographic appearance was obtained. The patient was discharged on the same day and remains symptom free at six months follow-up (Figure 7).

SUMMARY AND CONCLUSION

This case report highlights the technical challenges associated with treating resistant and heavily calcified lesions within tortuous arterial anatomy. During this procedure it was possible to deliver a wire through the target lesion; however, even the smallest balloon could not be passed through to open the vessel. With its unique threaded tip and excellent torqueability, the Turnpike Gold was successfully advanced through this complex lesion, which made it easy to subsequently deliver a larger balloon. Following angioplasty of the proximal RCA, the dual-lumen Twin-Pass catheter was utilized to wire the posterior descending artery, which had a challenging take-off angle from the RCA. The Turnpike Gold and Twin-Pass catheters facilitated successful completion of this procedure.

James Spratt, M.D., FRCP, FACC, FESC

Dr. James Spratt qualified from St. Andrews and Manchester Universities before training further in Manchester and Edinburgh. Having specialized in cardiology since 1995, he completed a Medical Doctorate in hypertension and heart failure research at Edinburgh University and specialized further in Interventional Cardiology at the University Hospital of Geneva in Switzerland.

Dr. Spratt has an established sub-specialty interest in complex PCI, particularly chronic total occlusions (CTOs) and has published widely in this area including an iBook on retrograde CTO PCI (www.ctoibooks.com).



The Turnpike catheters are intended to be used to access discrete regions of the coronary and/or peripheral vasculature. They may be used to facilitate placement and exchange of guidewires and to subselectively infuse/deliver diagnostic and therapeutic agents. The Turnpike Spiral and Turnpike Gold catheters are contraindicated for use in vessels with an effective diameter smaller than 1mm. The Twin-Pass catheters are intended to be used in conjunction with steerable guidewires in order to access discrete regions of the coronary and peripheral arterial vasculature, to facilitate placement and exchange of guidewires and other interventional devices, and for use during two guidewire procedures. Please see the Instructions for Use for a complete listing of the indications, contraindications, warnings, and precautions.

CAUTION: Federal law (U.S.A.) restricts this device to sale by or on the order of a physician.

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