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CASE REPORT

Immediate stent recoil in an anastomotic vein graft lesion treated by cutting balloon angioplasty

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KEYWORDS
Vein graft;
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Abstract Saphenous vein graft (SVG) anastomotic lesions can have significant fibromuscular hyperplasia and may be resistant to balloon angioplasty alone. Stents have been used successfully to treat these lesions. There are no reports of immediate stent recoil following such treatment in the literature. We describe immediate and persistent stent recoil in an anastomotic SVG lesion even after initial and post-deployment complete balloon dilatation of the stent and its successful treatment by cutting balloon angioplasty.

PALAVRAS-CHAVE
Enxerto de veia;
Recoil de *stent*;
Angioplastia com *cutting balloon*

Recoil imediato num _stent_ implantado numa lesão anastomótica dum enxerto venoso e seu tratamento com angioplastia com _cutting balloon_

Resumo As lesões de enxerto de veia safena (EVS) anastomótica podem ter hiperplasia fibromuscular significativa e podem ser resistentes à angioplastia de balão. *Stents* têm sido utilizados com sucesso no tratamento de tais lesões. Apesar de tratar estas lesões com *stents*, não há relatos na literatura de *recoil* imediato dos *stents*. Relata-se um caso de *recoil* persistente e imediato do *stent* numa lesão do EVS anastomótica logo após a dilatação inicial do balão e pós-implantação completa do *stent* e seu tratamento bem-sucedido com angioplastia com *cutting balloon*.

Introduction

Anastomotic interventions to saphenous vein grafts (SVG) pose a unique challenge to interventional cardiologists,

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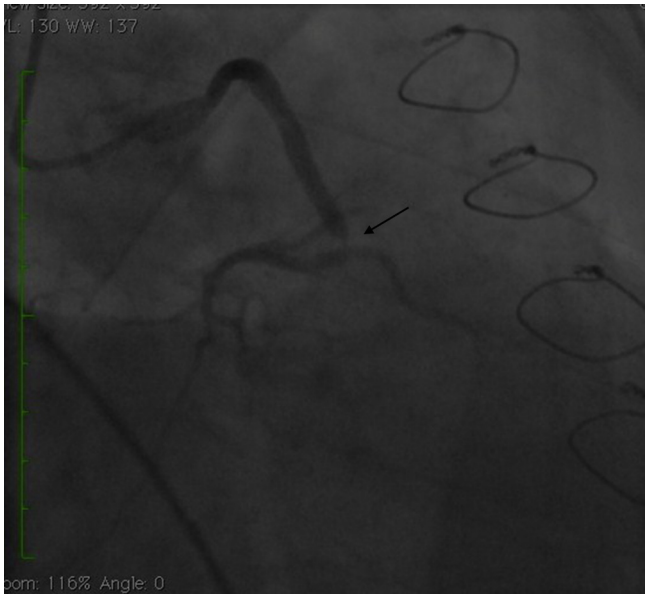

Figure 1 Angiogram showing high-grade anastomotic lesion of saphenous vein graft to obtuse marginal (arrow).

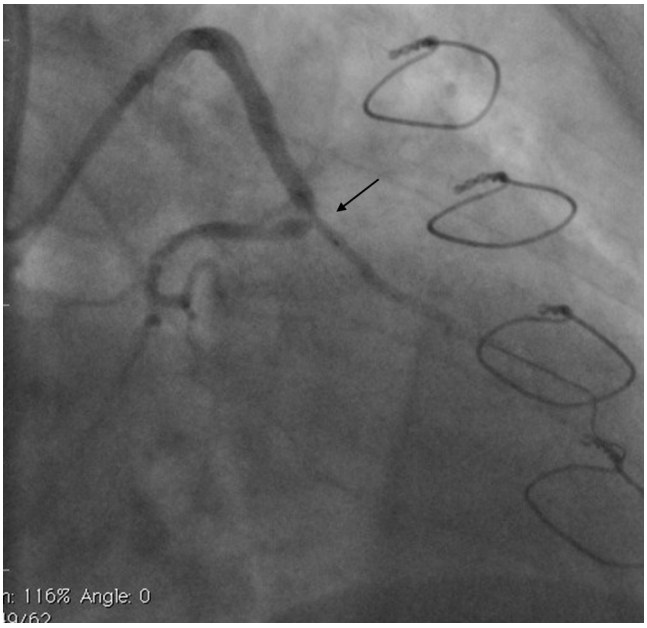

Figure 2 Angiogram showing stent placement (arrow).

as the morphologic and pathophysiologic characteristics of these lesions are different from native coronary artery lesions, being more fibrotic from excessive smooth muscle proliferation and less calcific or atherosclerotic, especially when they occur within a year of surgery.[1,3]

Challenges to interventional cardiologists in treating these lesions include suboptimal response to balloon angioplasty and accelerated lumen loss leading to early restenosis, which can be tackled by stent implantation that can increase gain in minimal lumen diameter (MLD) and reduce restenosis rates.[4–6] Other complications include perforation leading to hemorrhagic complications or tamponade, distal embolization and no reflow, among others.[4,6]

We present a unique case of immediate stent recoil after adequate balloon dilation and stent implantation in a distal SVG anastomotic lesion that was successfully treated by cutting balloon angioplasty.

Case report

A 50-year-old white male with hypertension, hyperlipidemia and coronary artery disease had coronary artery bypass surgery with a left internal mammary artery to left anterior descending artery graft and reverse saphenous graft to the first obtuse marginal (OM1) 13 months previously. He had had a non-ST segment elevation myocardial infarction two months previously with placement of a drug-eluting stent (DES) in the right coronary artery (RCA). He also had 90% focal stenosis at the distal anastomosis of the SVG to the OM1 on coronary angiography (Figure 1). This graft was also filling the left circumflex system retrogradely. The patient continued to have class 2–3 angina since his PCI to the RCA. He had been compliant with his medications: aspirin 81 mg daily, clopidogrel 75 mg daily, carvedilol 12.5 mg twice daily, Lisinopril 5 mg daily, rosuvastatin 40 mg daily, gemfibrozil 600 mg twice daily. With this clinical picture, he was scheduled for percutaneous intervention of the distal anastomotic lesion of the SVG to OM1 graft. The latter was engaged with a 6-F Amplatzer Left 0.75 guide catheter and after therapeutic anticoagulation was achieved with heparin, a Balance Middleweight guidewire (Abbott Vascular) was placed in the distal OM1. The lesion was then dilated with a 2.5 mm × 12 mm Apex balloon catheter (Boston Scientific Corporation) at 12 atm with full balloon inflation. This reduced the lesion from 90% to 40% stenosis. A 2.5 mm × 8 mm Promus stent (Boston Scientific Corporation) was then deployed at 15 atm across the lesion into the native OM1 distally and the stent balloon was reinflated proximally at 18 atm, with full expansion of the stent (Figures 2 and 3). The stent was then post-dilated with a 3.5 mm × 6 mm Sprinter

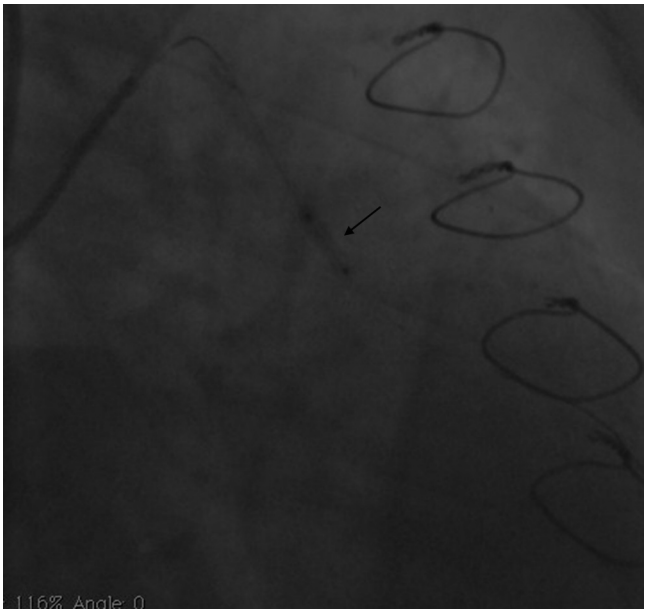

Figure 3 Angiogram showing stent deployment (arrow).