Angioplasty with saphenous vein grafting carries a high associated risk of distal embolization or “no reflow” phenomenon, and periprocedural infarction. Two groups of devices can help prevent these complications: distal protection filters and thrombus aspiration catheters. The case presented illustrates the feasibility of simultaneous use of both approaches in thrombotic occlusion of an aortocoronary bypass graft.

A 54-year-old man with a history of coronary surgery 11 years previously, consisting of a left mammary graft to the left anterior descending artery and a saphenous graft to the obtuse marginal artery. On the basis of ST segment elevation from V4 to V6, he was referred for primary angioplasty. Following administration of a heparin bolus and abciximab, angiography was performed through a left radial approach, with an introducer and 6 French catheter. The culprit lesion was identified in the saphenous-to-marginal graft, which was occluded in the distal third. After advancing a guidewire with a system for distal embolization protection (Filter-Wire EZ™, Boston Scientific) (triangular arrow, Figure 1a) the bypass was recannulated, with persistence of the image of defined thrombus (central arrows, Figure 1a). An aspiration catheter for thrombotic material (Pronto™, Vascular Solutions) (Figure 1b) was advanced over the guidewire and a conventional 4.0 x 18 mm stent was implanted to treat the residual lesion (Figure 1c), with a favorable final angiographic outcome (Figure 1d). The procedure lasted a total of 28 min from puncture to withdrawal of the introducer.

Combined use of devices for thrombectomy and distal protection can be applied in cases involving a large amount of friable atherosclerotic or thrombotic material, as may occur in acute occlusion of venous grafts.

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Combined Distal Protection and Thrombectomy in a Saphenous Vein Bypass Graft

Figure 1.