

IMAGES IN INTERVENTION

Occlusion of a Large Expanding Saphenous Vein Bypass Graft Aneurysm With Percutaneously Injected Ethylene-Vinyl Alcohol Copolymer

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A 63-year-old man with prior coronary artery bypass graft surgery (9 years prior) was incidentally diagnosed with a saphenous vein graft (SVG) aneurysm during investigation of an abdominal

aortic aneurysm. Computed tomographic scan demonstrated expansion of the SVG aneurysm from 2.3 to 4.5 cm maximal diameter over 2 years (Fig. 1A). The patient had multiple comorbidities,

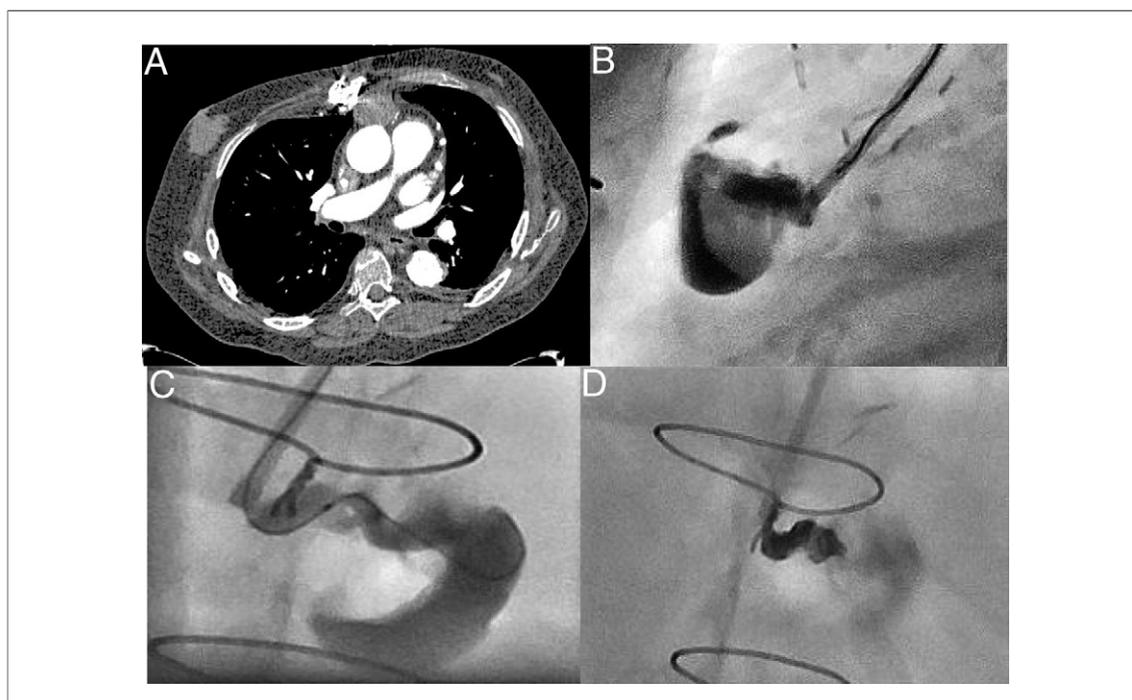


Figure 1. Percutaneous Occlusion of a Saphenous Vein Graft Aneurysm With Ethylene-Vinyl Alcohol Copolymer

An expanding saphenous vein graft aneurysm was discovered in a patient with multiple comorbidities (A). Percutaneous coil occlusion was planned, given the uncertain rupture risk and high risk of reoperation, but this was not possible due to expansion of the aneurysm with contrast injections and the extensive size (B, C). Subsequently, a guide catheter with a Marathon microcatheter (EV3 Neurovascular, Irvine, California) was advanced into the aneurysm neck. Percutaneously injected ethylene-vinyl alcohol copolymer was used to seal the ostium of the graft aneurysm with successful occlusion and no residual flow into the aneurysm (D).

including peripheral vascular disease, renal failure with a failed prior renal transplant, a hereditary C4 deficiency, and lupus-like syndrome, and was not considered a candidate for repeat open heart surgery. He was taken, given the uncertain rupture risk of the expanding SVG aneurysm, to the cardiac catheterization laboratory for planned coil occlusion. At time of angiography, the anatomy was felt to be incompatible with standard coil occlusion, due to expansion of the aneurysm with gentle contrast injections and the extensive size (Figs. 1B and 1C). Subsequently, a 7-F guide catheter was used to engage the SVG with a Marathon microcatheter (EV3 Neurovascular, Irvine, California) advanced over a guidewire into the aneurysm neck. Percutaneously injected ethylene-vinyl alcohol copolymer was used to seal the

ostium of the graft aneurysm with successful occlusion of the aneurysm and no residual flow into the aneurysm; a tiny residual tag of the copolymer was left protruding into the ascending aorta (Fig. 1D). On transesophageal echocardiography 5 weeks later, the ostial vein graft plug was seen, and the patient remains clinically stable. This is the first reported case of percutaneous injection of ethylene-vinyl alcohol copolymer in this situation.

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