

An Unexpected Trap at the Sheath Edge During Supera Stent Deployment

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An 87-year-old woman was referred with left foot coldness, rest pain, and a dorsal foot ulcer. Preprocedural evaluation showed multilevel disease from the iliac to below-the-knee arteries.

After treatment of the iliac and common femoral artery (CFA) inflow lesions, staged endovascular therapy was performed via antegrade left CFA access. The anterior tibial artery was treated with balloon angioplasty. During deployment of a 6.5 × 80-mm Supera stent in the proximal superficial femoral artery (SFA), the delivery system was retracted too far proximally, leaving the proximal stent edge within the sheath. The distal delivery-system tip seemed to be entrapped in the proximal stent struts. Subsequent traction caused tip fracture, leaving the fragment around the proximal stent edge. An attempt to push the retained tip into the antegrade sheath using a catheter introduced through a retrograde 4-Fr sheath placed in the mid-SFA was unsuccessful.

We therefore attempted retrieval of the Supera stent. An 8-Fr retrograde guiding sheath was inserted into the mid-SFA. A guidewire was advanced along the outside of the stent, and a 0.018-inch penetration wire was passed through the stent struts into the stent lumen, followed by advancement of a microcatheter. After exchange to a V-18 wire, the wire and microcatheter were captured with an EN Snare and pulled into the retrograde guiding sheath. This maneuver reduced the stent profile and enabled complete retraction of the Supera stent into the retrograde guiding sheath. The fractured delivery-system tip was removed with the snare. Hemostasis at the retrograde access site was achieved using Viabahn stent grafts, and the proximal SFA was treated with an Eluvia stent. Final angiography demonstrated satisfactory flow without residual foreign material. Retrograde wiring through the stent struts followed by snare-assisted stent retraction into the retrograde guiding sheath provided an effective bailout for Supera maldeployment complicated by delivery-system tip fracture.