A 60-year-old male initially presented with complaints of a non-healing wound on his right shin, right leg claudication walking 10-15 minutes, and an ankle-brachial index of 0.40. He underwent lower-extremity angiography. Initial angiogram showed a 100% occlusion of the right superficial femoral artery (SFA) at the level of Hunter’s canal with reconstitution at the distal popliteal artery (Figure 1). With the exception of slow-flow, the remainder of his lower-extremity arteries were angiographically normal. This lesion was thought to be thrombotic; he underwent AngioJet thrombectomy (Boston Scientific) and percutaneous transluminal angioplasty (PTA) with suboptimal results (Figure 2). A 6 x 80 mm Supera stent (Abbott Vascular) was deployed at the lesion (Figure 3).

He presented 3 weeks later for a second opinion with complaints of right leg claudication walking 100 feet. We...
repeated a lower-extremity angiogram, revealing a stent fracture with complete transsection and gap between stent segments (Figure 4). Careful review of his prior angiogram was consistent with adventitial cystic disease (ACD) of the popliteal artery as the cause of the popliteal artery occlusion. ACD is characterized by the development of mucus-containing cysts, most commonly in the popliteal artery, causing partial or complete obstruction of blood flow. Clues in this patient’s prior angiogram point to ACD as the diagnosis. First, it is unusual to have severe peripheral vascular disease causing occlusion of the popliteal artery, without evidence of disease affecting other lower-extremity arteries. Additionally, after PTA of the popliteal, angiogram showed a smooth, well-defined, filling defect characteristic of ACD (Figure 2). On closer examination of the angiogram, cysts can be visualized (Figure 5). Definitive diagnosis of ACD can be made with computed tomographic or magnetic resonance angiography. Treatment options include cyst aspiration or excision, which are often ineffective due to cyst regrowth, and bypass of the affected artery. The affected artery should not be stented. ACD exacerbated the mechanical forces on the stent during movement, contributing to fracture. Our patient was referred for right femoral-popliteal bypass. Histopathology confirmed ACD. He is doing well at 6-month follow-up.