Angioseal-Assisted Closure of Iatrogenic Refractory Femoral Arterial Pseudoaneurysm
A Novel Technique

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A 63-year-old woman presented 20 days after a coronary artery angiogram, with a pulsatile mass in the right groin. Doppler ultrasound confirmed the presence of a 4.5-cm diameter pseudoaneurysm arising from the superficial femoral artery (SFA) (Figure 1).

The patient was on full anticoagulation for a recent episode of unprovoked massive pulmonary

FIGURE 1 Doppler Ultrasound

Large pseudoaneurysm with “to and fro flow” on color Doppler.
embolism. It was decided to attempt percutaneous thrombin injection with balloon protection.

The contralateral common femoral artery was accessed, an angiogram was performed (Figure 2), and a 5 × 40-mm balloon was placed across the neck of the pseudoaneurysm. Using ultrasound guidance, the pseudoaneurysm was accessed with a 22-G needle. The balloon was inflated across the neck, and a total of 3,000 U of thrombin (TISSEEL fibrin sealant kit,
Baxter Healthcare, Deerfield, Illinois) was injected without success, likely due to full anticoagulation.

Because the neck of the pseudoaneurysm was quite narrow, and the diameter of the SFA was adequate, it was decided to attempt deployment of a 6-F Angioseal closure device (St. Jude Medical, Minnetonka, Minnesota) across the neck.

The pseudoaneurysm was accessed with 22-G needle; a microwire was negotiated through the neck into the proximal SFA and was then exchanged for a 0.035-inch J wire. A sheath from the Angioseal device was advanced over the wire into the SFA, and the closure device was deployed with the footplate in the SFA and the collagen plug in the pseudoaneurysm. Once the tamping tube was removed, no further filling was identified on angiography (Figure 3), and no flow was present on color Doppler examination (Figure 4).

The left common femoral artery puncture site was also closed with a 6-F Angioseal device. The patient was discharged home 6 h after the procedure and was asymptomatic on follow-up.

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