CASE REPORT:
Successful Removal of Organized TPT, PT, and AT Thrombus With Two Passes of the Pounce™ Thrombectomy System

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PATIENT PRESENTATION

A woman in her early 70s with a medical history of atrial fibrillation and incomplete compliance with her medication presented with sudden onset of a cold leg after 2 days of progressively worsening pain. Although she reported severe pain and tenderness at presentation, she observed no loss of sensation or motor function.

DIAGNOSTIC FINDINGS

An initial CT scan showed her left iliac artery, left common femoral artery (CFA), and left superficial femoral artery (SFA) were all open, but it also showed a complete occlusion of her left popliteal segment. She was immediately administered heparin and taken to the cath lab.

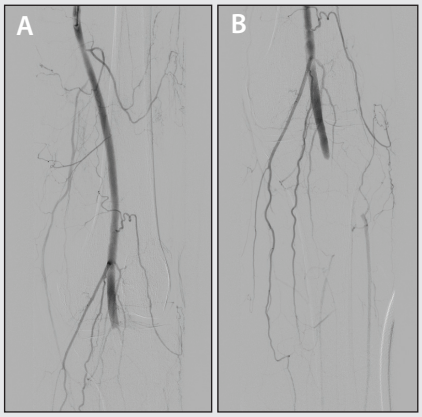

Figure 1. Patent SFA with P2 total occlusion (A) and faint reconstitution of PT and AT via geniculate collaterals (B).

TREATMENT

Access was achieved on the right CFA using micropuncture techniques and ultrasound guidance. An angiogram taken of the left leg showed a patent SFA but with an organized thrombus burden obstructing the popliteal artery, confirming the findings from the original CT scan (Figure 1). She had minor collateral flow, partially filling her posterior tibial (PT) and anterior tibial (AT) arteries, but runoff was poor. Due to her ongoing pain and symptoms, immediate endovascular intervention was deemed appropriate to remove occlusive material as promptly as possible. The patient's tibial and tibioperoneal trunk (TPT) vessels were estimated to be ≥ 3.5 mm, so the Pounce™ Thrombectomy System (Surmodics, Inc.) was chosen for thrombectomy.

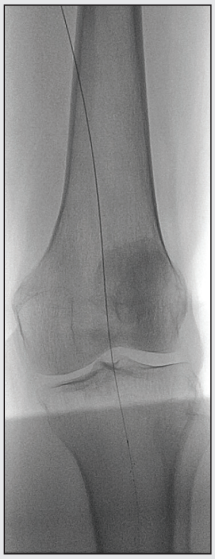

Figure 2. The Pounce™ System's basket wire deployed into the TPT, and the collection funnel deployed into the peroneal artery.

Figure 3. Patent popliteal, TPT, PT, and peroneal arteries after one pass of the Pounce™ Thrombectomy System.

Figure 4. The basket wire deployed in the AT artery.

Figure 5. Complete thrombus removal in the popliteal, TPT, and AT arteries with two passes of the Pounce™ Thrombectomy System.

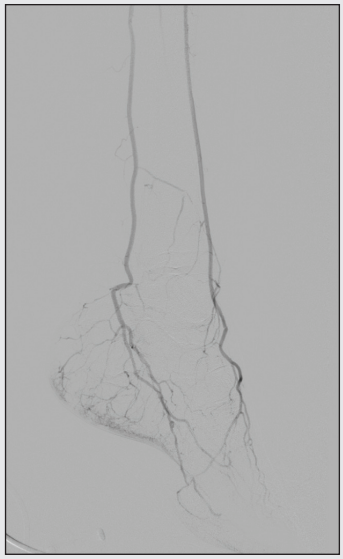

Figure 6. Normalized runoff with no distal embolization and full perfusion of the foot.

The initial 5 Fr procedural sheath was upsized over the already placed .035 Hi-Torque Versacore™ guidewire (Abbott) to a 7 Fr Destination® guiding sheath (Terumo Interventional Systems). The sheath and guidewire were then traversed through the left-side occlusion past the organized thrombus burden. The Pounce™ Thrombectomy System was prepared. The device's basket wire was deployed into the TPT via the delivery catheter and the funnel catheter was deployed over the basket wire into the popliteal artery (Figure 2). The basket wire was pulled back into the funnel catheter and the system was removed from the body. The first pass successfully removed organized material obstructing the popliteal artery. A follow-up angiogram showed reconstitution of the popliteal artery to the TPT (Figure 3), but there remained an obstructed AT artery.

A second pass of the Pounce™ Thrombectomy System was conducted in the AT artery. The basket wire was placed in the mid-AT artery (Figure 4), and the funnel catheter was placed in the popliteal artery. The basket wire was pulled back through the AT artery into the collection funnel located in the popliteal artery and removed from the body, removing additional thrombus burden. A follow-up angiogram showed complete resolution of flow to the AT artery, with continued strong flow in the popliteal and TPT (Figure 5) and no indications of embolization to the distal vasculature. The final angiogram also showed improved runoff to the foot (Figure 6).

POST-PROCEDURE OUTCOME

With complete thrombus removal and full resolution of flow to the foot, the patient was put on heparin after the access site was closed. Within 24 hours after the intervention, the patient's leg showed improvement. The following day the patient resumed apixaban treatment and was discharged home. The Pounce™ Thrombectomy System facilitated complete resolution of thrombus burden with just two passes and no need for adjunctive therapies, thrombolysis, or surgical intervention. ■