CASE STUDY

Needle- and Microcatheter-Guided Coiling of a 6-cm Internal Iliac Artery Aneurysm

BY SAAM TABAR, MD

CASE PRESENTATION

A 63-year-old man presented with a large, 6-cm traumatic aneurysmal arteriovenous fistula of the left internal iliac artery, likely secondary to the bullet in his groin area. The patient had a coiling embolization at an outside hospital prior to this case and had a bullet in his groin area **(Figure 1A)**. We attempted to cannulate the left internal iliac artery from a contralateral approach, but this proved unsuccessful due to the tortuosity of the iliac arteries and pelvic regions. Our next step was to access the aneurysmal sac directly, using an 18-gauge needle under CT guidance. CT scans without and with contrast were obtained **(Figure 1B and C)**.

Procedure Description

Direct access was established by placing a 15-cm, 18-gauge needle into the aneurysm sac under CT guidance **(Figures 1D and E)**. We then proceeded to introduce an 0.021-inch (0.53-mm) Renegade™ STC Microcatheter with a Fathom™ Guidewire through the entry needle, and we began to embolize with fibered Interlock™-18 Detachable Coils. We used the Renegade™ STC Microcatheter and Fathom™ Guidewire to maneuver around the aneurysm, placing coils around the aneurysmal area in an attempt to fill as much space as possible.

Once the edges of the sac were coiled, we removed the microcatheter and microwire system, upsized to the 0.035-inch (0.89-mm) Interlock™-35 Fibered Detachable Coils, and pushed the coils directly through the needle and into the center of the sac, where they were delivered smoothly.

Discussion

Upon completion of the embolization, we had used 36 Interlock™ Coils, both 0.018- (0.46-) and 0.035-inch (0.89-mm), ranging in size from 10 mm to 22 mm **(Figure 1F)**. Completion angiography showed an interesting nest of collateral vessels feeding into the venous system **(Figure 1G)**.

Upon embolization of the arterial aneurysm, we noted new arteriovenous channels that appeared to supply the outflow directly to the iliac vein and inferior vena cava. Due to the dense network of thrombogenic Dacron™ (Invista) fibers on each Interlock™ Coil, we felt confident that this treatment would secure the aneurysmal sac in this large, complex, traumatic arteriovenous fistula.

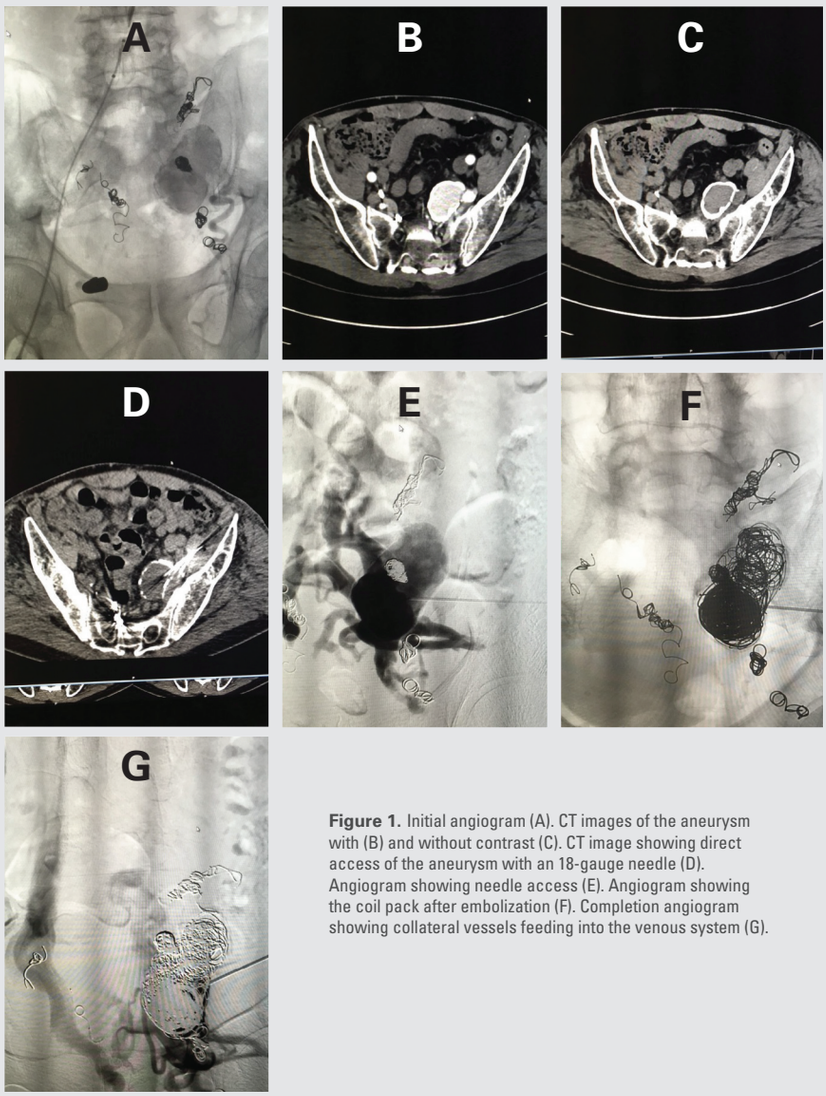

Figure 1. Initial angiogram (A). CT images of the aneurysm with (B) and without contrast (C). CT image showing direct access of the aneurysm with an 18-gauge needle (D). Angiogram showing needle access (E). Angiogram showing the coil pack after embolization (F). Completion angiogram showing collateral vessels feeding into the venous system (G).

Saam Tabar, MD
Interventional Radiologist Veterans Affairs Hospital Washington, DC

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