

IMAGING VIGNETTE

BEGINNER

CLINICAL VIGNETTE

Delayed Presentation of a Large Pseudoaneurysm in the Common Femoral Artery After an Electrophysiology Study



Justin Ratcliffe, MD,^a Joshua Berookhim, MD,^b Pankaj Khullar, MD,^a Naveed Rajper, MD,^a Joseph Puma, DO^a

ABSTRACT

We describe a rare case of an exceptionally large pseudoaneurysm that developed in the right common femoral artery 6 months after an electrophysiological study. Surgical and other conventional methods to treat his pseudoaneurysm were not feasible. Therefore, the pseudoaneurysm was successfully treated via an endovascular approach with a covered stent. (**Level of Difficulty: Beginner.**) (J Am Coll Cardiol Case Rep 2020;2:454-5) © 2020 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

A 70-year-old obese male with multiple comorbidities including coronary artery disease, 2-vessel coronary artery bypass grafting, end-stage heart failure (New York Heart Association functional class IV, American Heart Association Stage D) after biventricular implantable cardioverter-defibrillator, severe peripheral artery disease, and chronic kidney disease presented to the emergency department with a 2-week history of right groin swelling and pain.

The patient had undergone an electrophysiology study 6 months prior to his emergency department visit. Vascular access was obtained for the study through the right common femoral vein, although ultrasonography guidance was not used. A check of the right groin post-procedure showed no evidence of hematoma and no bleeding, and the patient had intact pedal pulses bilaterally. The patient was discharged home the next day and did not have any clinical symptoms until 2 weeks before the current admission.

On admission, the patient was hemodynamically stable, and there were no abnormal laboratory results. Arterial ultrasonography showed evidence of a large pseudoaneurysm (psA) in the right groin above the inguinal ligament. The psA neck had a diameter of approximately 11 mm, and the psA itself measured approximately 10.76 × 10.55 cm (**Figures 1A and 1B**). Subsequent computed tomography (CT) scans of the abdomen and pelvis confirmed the large psA (**Figure 1C**). Vascular surgery was consulted for possible surgical intervention, but the patient was deemed to be a poor surgical candidate for surgical repair due to his multiple comorbidities. Furthermore, given the size and location of the psA, conventional methods such as ultrasonography-guided compression and injection of thrombin were not options (1). Therefore, given the lack of standard treatment options, an endovascular approach with placement of a covered stent was chosen as the best alternative option.

From the ^aCardiovascular Department, Mount Sinai St. Luke's Hospital, New York, New York; and the ^bDepartment of Medicine, Mount Sinai St. Luke's Hospital and Mount Sinai West, New York, New York. The authors have reported that they have no relationships relevant to the contents of this paper to disclose.

The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, or patient consent where appropriate. For more information, visit the JACC: Case Reports [author instructions page](#).

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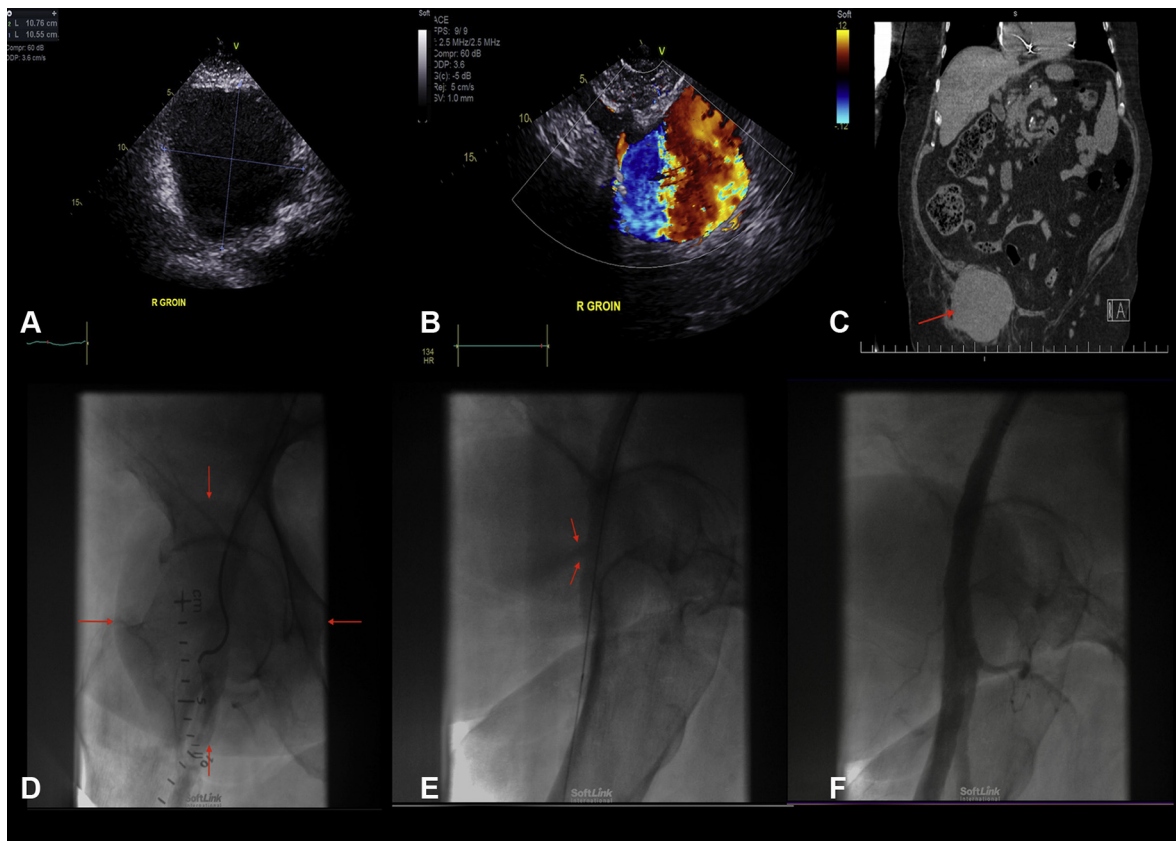
Ultrasonography was used to obtain vascular access through the contralateral left common femoral artery (CFA), and access was achieved with a single arterial puncture. The psA was visualized using angiography (Figures 1D and 1E). There was poor contrast seen distally in the artery due to extravasation into the psA. A 9- × 58-mm Lifestream covered stent (Bard, Salt Lake City, Utah) was placed in the right CFA. The stent was post-dilated using a 12-mm balloon. Final contrast angiography showed successful exclusion of the psA (Figure 1F). Importantly, there was no endovascular graft leak or compromise of significant side branch arteries. The patient was monitored in the hospital overnight and was discharged home the next day. The patient had clinical improvement immediately. Arterial ultrasonography was performed at 1 week and at 1-month follow-up, which confirmed resolution of the psA and durability of the covered stent.

**ABBREVIATIONS
AND ACRONYMS**

CFA = common femoral artery
CT = computed tomography
psA = pseudoaneurysm

ADDRESS FOR CORRESPONDENCE: Dr. Justin Ratcliffe, Cardiovascular Department, Mount Sinai St. Luke's Hospital, 1111 Amsterdam Avenue, New York, New York 10025. E-mail: justin.ratcliffe@mountsinai.org.

FIGURE 1 Imaging



(A) Ultrasonography of the right groin shows psA measuring approximately 10.7 × 10.5 cm. **(B)** Ultrasonography of the right groin shows to-and-fro color Doppler flow in the psA. **(C)** Coronal CT without contrast shows large right CFA psA (red arrow). **(D)** Right CFA psA (red arrows). Opacification was difficult due to limited use of contrast due to large psA size. **(E)** Neck of the psA shows contrast extravasation (red arrows). **(F)** Post-stent placement with markedly improved blood flow into the CFA. CFA = common femoral artery; CT = computed tomography; psA = pseudoaneurysm.

REFERENCE

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