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CASE STUDY

Embolization for High-Flow Priapism

BY MARK HORVATH, DO, AND DANIEL LOCASCIO, MS, MD

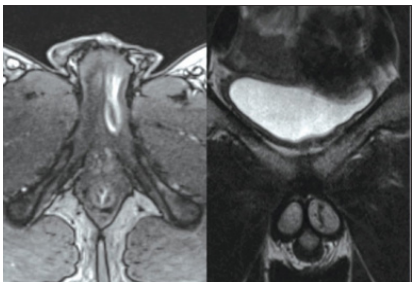

Figure 1. Dynamic contrast-enhanced MRI showing an arteriocavernosal fistula involving the left corpora cavernosa.

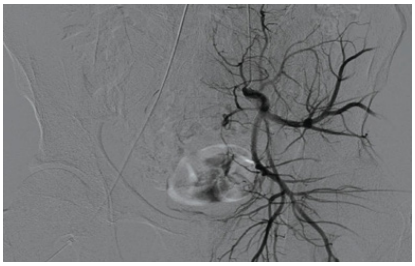

Figure 2. Angiogram demonstrating a large arteriocavernosal fistula with intense arterial blush over the left corpora.

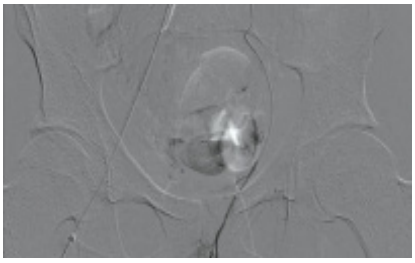

Figure 3. Angiogram obtained after using the Direxion™ Torqueable Microcatheter and Fathom™-16 Guidewire showing similar findings as in Figure 2.

CASE PRESENTATION

A 24-year-old man was referred from urology for possible endovascular treatment of high-flow priapism. He originally presented to urology clinic following symptoms from perineal impalement from a skateboard injury. The patient had complaints of persistent partial erections and inability to achieve and maintain full erections.

An initial sonogram with Doppler was obtained, which did not demonstrate any abnormality. Dynamic contrast-enhanced MRI revealed an arteriocavernosal fistula involving the left corpora cavernosa **(Figure 1)**.

Potential treatment options for this patient were endovascular embolization and conservative management. According to the American Urologic Association guidelines on the management of high-flow (nonischemic) priapism, up to 62% of cases will resolve spontaneously; however, up to one-third will have an associated complaint of erectile dysfunction.[1] Given the patient's age and desire for a rapid resolution of symptoms, endovascular embolization was chosen.

Procedure Description

After using standard techniques to access the right common femoral artery, a 5-F (1.67-mm) sheath was placed, and a 4-F (1.33-mm) hockey stick catheter was used to select the left internal iliac artery. An angiogram demonstrated a large arteriocavernosal fistula with intense arterial blush over the left corpora **(Figure 2).** Next, a 0.021-inch (0.53-mm) Direxion™ Torqueable Microcatheter and Fathom®-16 Guidewire were used to select the left internal pudendal artery, and subsequent angiogram revealed similar findings **(Figure 3)**. The microcatheter was then advanced just beyond the site of the arteriocavernosal fistula and two 2-mm X 4-cm IDC™ Soft Microcoils were deployed.

Repeat angiogram revealed complete resolution of the fistula and preservation of the dorsal penile artery **(Figure 4).** Of note, the patient's erection was visible on fluoroscopic spot images and immediately detumesced following coil deployment **(Figure 5)**.

The patient had an uneventful overnight hospital stay and was discharged in good condition. The morning following the procedure, he endorsed nocturnal penile tumescence but otherwise the priapism continued to resolve. The patient was seen approximately 7 weeks following embolization and remained very pleased with the result, endorsing full erections and no further priapism.

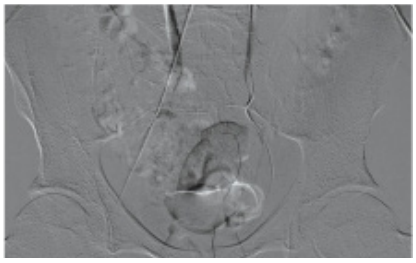

Figure 4. Repeat angiogram showing complete resolution of the fistula and preservation of the dorsal penile artery.

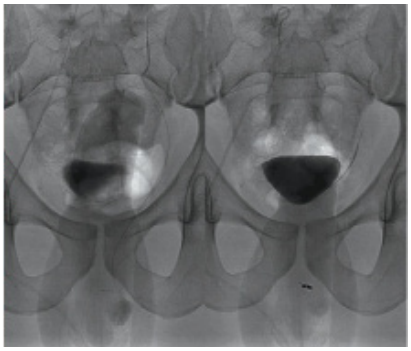

Figure 5. Fluoroscopic image after coil deployment.

Discussion

Because of the softness and packing ability of the IDC™ Soft Microcoils, they were an ideal choice for shutting down the fistula while preserving flow to the dorsal penile artery and perforating branches. The postembolization angiogram not only showed preservation of the dorsal penile artery, but also improved flow compared to the pre-embolization angiogram.

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1. Montague DK, Jarow J, Broderick GA, et al. American Urological Association guideline on the management of priapism. J Urol. 2003;170(4 Pt 1):1319-1324.