

Severe Groin Pain Associated With Loss of Flow in Internal Iliac Artery in a Female Patient

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Dear Editor,

We have read the interesting article by Babaev and Jhaveri¹ about endovascular revascularization of pudendal artery atherosclerotic disease in patients with medically refractory erectile dysfunction. During percutaneous interventions to common iliac (CIA) or external iliac artery lesions (EIA), the internal iliac artery (IIA) usually gets less attention, especially in female patients. In fact, during concomitant endovascular repair of

abdominal aortic aneurysms and CIA aneurysms, endograft limb extension into the external iliac artery is often necessary and usually the internal IIA is coil embolized or covered by the stent in such a case to prevent endoleak.

We did have a 47-year-old black female patient with hypertension, diabetes mellitus, hyperlipidemia, and coronary artery disease who presented with severe claudication of her right thigh and calf on walking 10 to 15 feet and abnormal ankle-brachial index of 0.59 on the right lower extremity. Selective angiography of the right lower extremity showed a patent CIA and chronic total occlusion (CTO) of proximal and mid EIA and 90% lesion of IIA ostial-proximally (Figures 1 and 2). Due to limiting symptoms, it was decided to intervene on the right EIA occlusion.

After left to right crossover with a 6 x 45 cm sheath, a Confianza wire (Abbott Vascular) was used to cross the CTO of EIA and a Fox SV 5.0 x 40 mm balloon (Abbott Vascular) was used for balloon

angioplasty (BA) of the lesion. During and after BA, the patient experienced severe pain in the hip, right groin, and genital area. Repeat images showed compromised flow in the right IIA (Figure 3). There was no evidence for a perforation at the side of the pain, abdomen was soft and there was no tenderness or change in pain with deep palpation of the right groin. Then, a Prowater wire (Abbott Vascular) was advanced in the right internal iliac artery and a Fox SV 5.0 x 40 mm balloon (Abbott Vascular) was inflated at 4 atm with establishment of normal flow in the vessel with less than 20% residual and immediate resolution of the pain (Figure 4). The EIA lesion was stented with Absolute pro 7.0 x 80 mm and 7.0 x 40 mm self-expanding stents (Abbott Vascular). Due to residual significant gradient in proximal edge of the first stent, a Protégé Everflex 8.0 x 20 mm self-expanding stent (ev3) was deployed across the IIA for full coverage of the ostial EIA and postdilated with a Fox SV 7.0 x 20

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Figure 1. Angiogram showing chronic occlusion of right external iliac artery (big arrow) and 90% lesion in the ostial/proximal internal iliac artery.

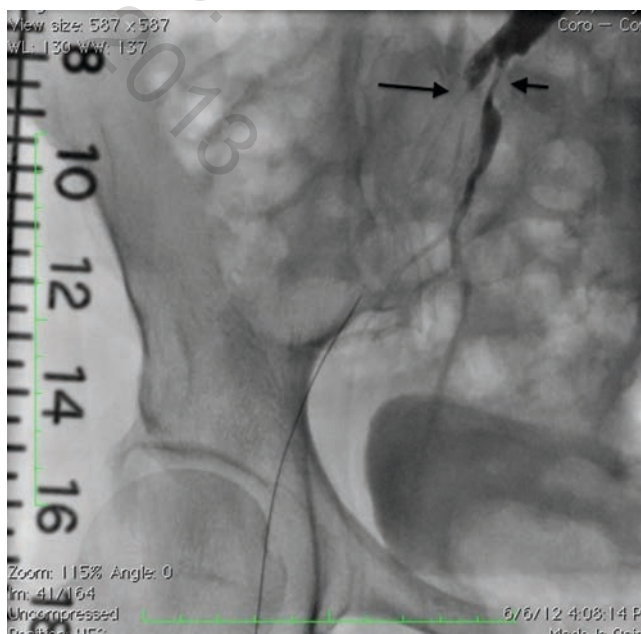


Figure 2. Angiogram showing wire in occluded external iliac artery (big arrow) and diseased internal iliac artery (small arrow).

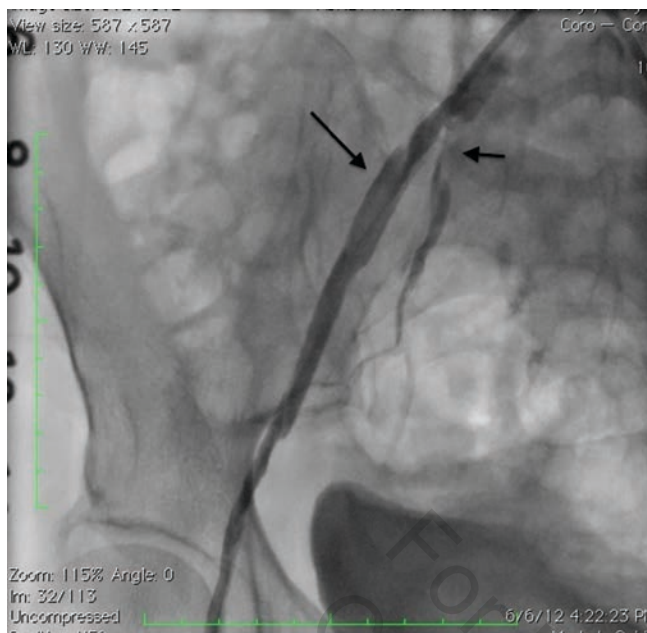


Figure 3. Angiogram after balloon angioplasty of external iliac artery with a dissection (big arrow) and compromised flow in the internal iliac artery (small arrow).

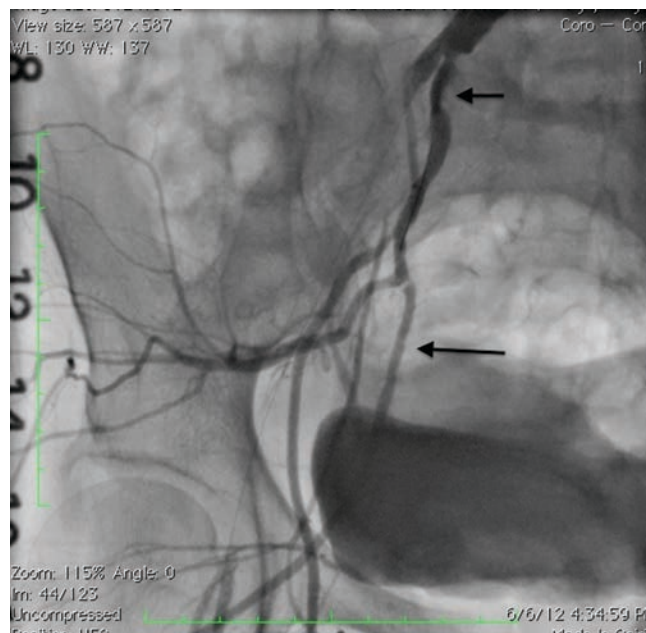


Figure 4. Angiogram showing improved flow in internal iliac artery (arrow) after balloon angioplasty (arrows).

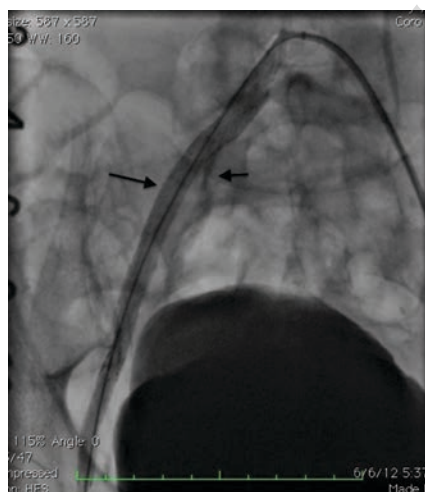


Figure 5. Angiogram with more proximally placed sheath showing good flow in both external (big arrow) and internal iliac (small arrow) arteries.

mm balloon (Abbott Vascular) with no residual stenosis or gradient (Figure 5). The flow in the IIA remained normal, but she experienced similar pain during postdilatation of the distal CIA/ostial EIA stent which self-resolved with deflation of the balloon. She was discharged home with no complications and did not have any recurrent hip or groin pain in the 6-month follow-up period with no symptoms of leg claudication.

Discussion

The internal iliac artery divides into two large trunks, an anterior and a posterior, which give rise to many small branches. The anterior trunk branches are the iliolumbar artery to the hipbone and muscles of the back, superior and inferior gluteal arteries to the muscles of the buttocks, pelvic muscles, and the skin of the buttocks. Posterior branches are internal pudendal artery to the alimentary canal, external genitalia, and hip joint, the superior and inferior vesical arteries to the urinary bladder and, in males, the prostate gland, the middle rectal artery to the rectum, and the uterine artery to the uterus and vagina in females.

The potential consequences of IIA occlusions during repair of abdominal aortic aneurysms are pelvic necrosis, colon ischemia, impotence, paraplegia, hip and buttock claudication. Because of extensive collateral network in the pelvis, these complications are relatively rare and are more severe with distal embolizations of IIA.² Hip and buttock claudication reported to improve over time in most of these patients, but some still had continued symptoms.^{2,3} As seen in our patient, acute occlusion of the IIA can result in severe pain in the groin and

hip and may create confusion and concern for other complications such as perforation during the procedure. Our patient might have had more pronounced symptoms due to occlusion of the external iliac artery and presence of collateral flow through a diseased IIA to profunda and SFA.

Conclusion

Acute loss of flow in the IIA during a percutaneous intervention can cause severe pain; improving the flow in the IIA would not only relieve the pain, it would also decrease potential long-term problems in these patients. Attempts to improve the flow in the IIA should be considered during percutaneous interventions.

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