SCIENTIFIC LETTER

COMPLEX ARTERIOVENOUS FISTULA OF THE ILIAC SECTOR. RENAL EXPLANT COMPLICATION

ABSTRACT

Presentation of a clinical case with endovascular resolution of an arteriovenous fistula of the left external iliac artery and left external iliac vein with an occluder plug. A 34-year-old male patient with a history of obstructive nephropathy and chronic renal insufficiency. Surgical history: left kidney transplant, kidney explant, presented pain, edema and functional impotence of the left lower limb, a thrill was palpated in the left inguinal region. Endovascular treatment with an occluder plug is indicated at the level of the fistula, which was well tolerated by the patient, with rapid recovery and a significant decrease in symptoms.

Keywords: *Renal explant, arteriovenous fistula, high-flow iliac sector, endovascular treatment.*

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INTRODUCTION

Iatrogenic vascular lesions of the iliac sector are associated with high morbidity and mortality in the postoperative period after conventional surgery. They are more commonly associated to neurosurgical interventions of the spine (discectomies) specially of disks L4-L5 or L5-S1[1,2]. Iatrogenic vascular lesions subsequent to renal explants are extremely rare in the literature.

CLINICAL CASE

A 34-year-old male patient consults for pain, edema and light functional impotence of the lower left limb. In the physical exam the patient shows signs of chronic venous insufficiency with pigmentation and eczema.

Medical history: Obstructive nephropathy with chronic renal insufficiency and tri-weekly hemodialysis.

Surgical history: Left renal transplant (2002), renal explant (2008).

Following explant (2008) the above described symptomatology starts, in addition to the heaves and thrill identified during the physical examination in the left inguinal region. Complementary studies start with an arterial echo Doppler which evidences a turbulent flow compatible with high flow arteriovenous fistula at the level of the external iliac vein.

An angiography is performed (Figures 1 and 2) in which evidences of high flow arteriovenous fistula dependent on the distal third of the left external iliac artery with significant growth of the venous sector. Furthermore, a natural bypass is observed dependent on the left hypogastric artery to the common femoral chamber (Diagram 1).

After planning, it is decided to perform embolization of the affected arterial sector.

FIGURE 1. Angiographic image showing high-flow arteriovenous fistula dependent on the distal third of the left external iliac artery.

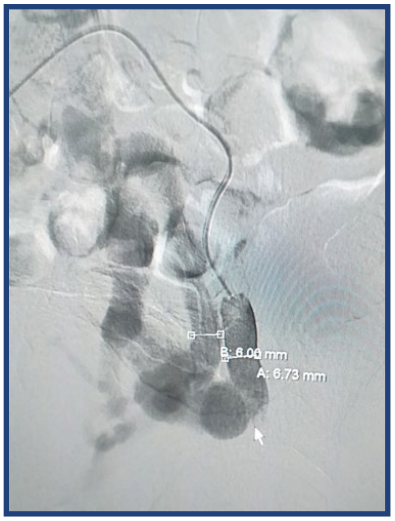

FIGURE 2. The same study reveals a significant development of the venous system and a natural bypass dependent on the left hypogastric artery to the common femoral chamber.

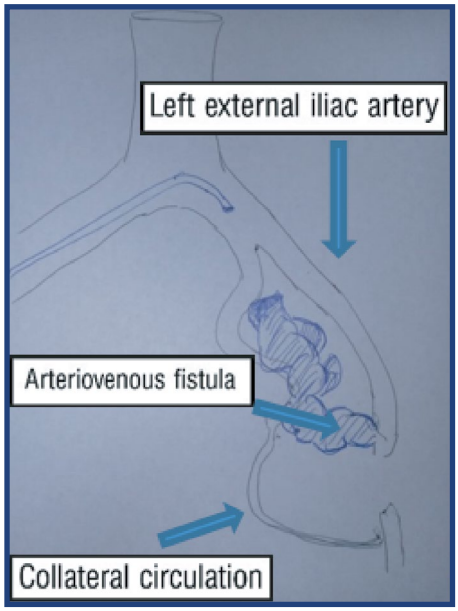

DIAGRAM 1. Schematic interpretation of the identified pathology where occlusion of the iliac artery is observed as well as the arteriovenous fistula and the bypass of the hypograstric artery to the common femoral chamber.

Under spinal anesthesia, we proceed to lateral placement of a 6 Fr introducer, selective cannulation with Simmons 1 catheter due to intense tortuosity and with hydrophilic wire a 9 Fr sheath is placed at the bottom of the sac of the left external iliac artery (assuming that it had been ligated in the explant surgery). An occluder, 12mm diameter MemoPart device (Figure 3) is placed. Closure is performed by conventional surgery using the introducer diameter.

Control angiography evidences the occluder plug optimally inserted, the thrombosed external iliac artery and the obliteration of the venous communication (Figures 4 and 5, and Diagram 2). There are not clinical symptoms of chronic ischemia nor venous insufficiency.

CONCLUSIONS

Iatrogenic lesions of the iliac vessels could go unnoticed in the intraoperative or immediate postoperative periods. Modern imaging techniques allow for an accurate diagnosis of the lesion and planning of a suitable treatment, although these lesions are unusual[3].

Conflicts of interest
The authors have no disclosures to declare.

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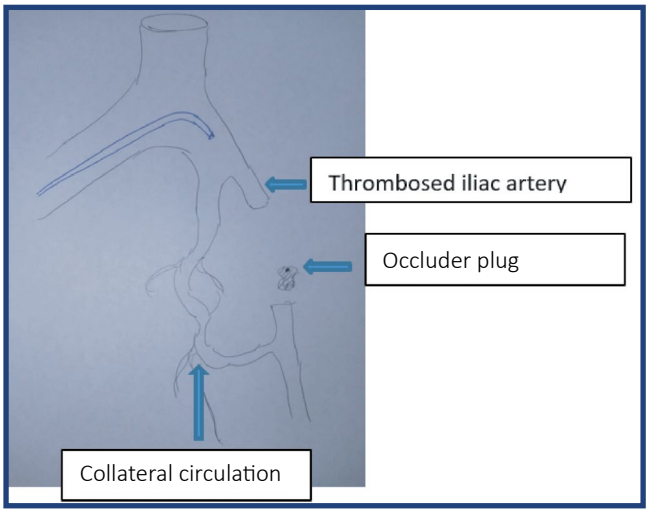
FIGURE 3. Placement of the occluder device.

DIAGRAM 2. Interpretation of the images in Figures 4 and 5.



FIGURES 4 AND 5. Angiographic verification of the appropriate placement of the occluder and closure of the arteriovenous fistula.