Ilio-Iliac Arteriovenous Fistula – a diagnostic and therapeutic challenge

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Disclosure

Andreia Pires Coelho, M.D.

I have the following potential conflicts of interest to report:

- [ ] Consulting
- [ ] Employment in industry
- [ ] Stockholder of a healthcare company
- [ ] Owner of a healthcare company
- [ ] Other(s)

☒ I do not have any potential conflict of interest
Introduction

- Major pelvic Ilio-Iliac Arteriovenous fistula (AVF) is an exceedingly rare diagnosis with only a few described cases in the literature.
  - Most of them related to congenital defects or trauma.
In this case report, we present a case of an ilio-iliac AVF with a very atypical clinical presentation treated in our institution.
Case Report

- 77 year-old female;

- Medical History:
  - Remote hysterectomy more than 40 years ago;
  - Otherwise, no relevant medical history.
Case Report

- After a short-course plane flight, patient developed an exuberant unilateral right leg oedema

- **Diagnosis: Iliofemoral deep vein thrombosis (DVT)**
  - Positive d-dimers concentration of 25000 µg/mL
  - Diagnostic Doppler Ultrasound Scan

- **Treatment:** Warfarin + daily elastic compression stockings.
Case Report

FOLLOW-UP

- No improvement in leg oedema;

- Development of **serious pain** in the right leg, refractory to pain medication;

- Several weeks later, she started developing right foot numbness which eventually evolved to paralysis and **dropped foot**.
Case Report

With this peculiar clinical history, a **CTA** was performed to **exclude any** compression or paraneoplastic syndrome:

**MAY 2016**

**NO REMARKABLE FINDINGS**
Case Report

OCTOBER 2016

- Patient symptoms continued to worsen with **no plausible explanation**!
- A new **CTA** was performed:

**ILI-O-ILIAC ARTERIOVENOUS FISTULA (AVF)**
Case Report

- Diagnostic Angiography
Case Report

- **Coil embolization** of the AVF (Helix EV3®)
Case Report

- Deployment of stent graft Advanta V12® in the IIA to seal the fistulous tract
Case Report

- Common iliac vein recanalization and deployment of a **Venovo® stent**;
- Embolization with **Helix EV3® coils** and **Onyx®** of the IIA branches
Case Report

- Drastic improvement in leg oedema;
- Progressive improvement in leg pain;
- Little improvement in dropped foot with physiotherapy;
- Major improvement in quality of life.
Discussion

- In this case, a **definite etiologic relationship is very difficult to establish**
  - AVF as a result of venous hypertension and inflammatory reaction associated to the **DVT**;
  - **Iatrogenic** AVF after hysterectomy, with symptom burst after DVT;
  - **Right-sided May-Thurner syndrome**, with AVF development due to chronic venous hypertension and local trauma.
Discussion

- **Ischemic Monomelic Neuropathy**

  - **Pathophysiologic mechanisms:**
    - Inflammatory local reaction to the DVT;
    - Ischemic steal syndrome, due to the AVF.
Discussion

Emerging, safer, more efficient approach when compared to open surgery.

Several isolated case reports of successful endovascular treatment have been published.

Nonetheless, long term results (beyond 24 months) are currently lacking.

**Endovascular Treatment**

- **Systematic review** that included all published articles until September 2013;
  - n = 54 patients;

- **Open surgical repair**
  - 12-25% peri-operative mortality rate;

- **Endovascular treatment** (n=38)
  - No perioperative mortality;
  - 94% technical success;
  - 12% re-intervention
  - No follow-up beyond 24 months
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Thank you for your attention
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