Acute idiopathic segmental thrombosis of the corpus cavernosum. Imaging findings on MR

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Section: Uroradiology & genital male imaging
Area of Interest: Genital / Reproductive system male
Procedure: Diagnostic procedure
Procedure: Surgery
Imaging Technique: MR
Imaging Technique: RIS
Special Focus: Embolism / Thrombosis Case Type: Clinical Cases
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Patient: 20 years, male

Clinical History:

Male patient aged 20 with 7 days continuous perineal pain which increases during erection without response to analgesics treatment. He denied trauma, sexual injury, symptoms of urinary infection or drug treatments. Physical examination showed a painful perineal mass with the penis in a flaccid state (partial priapism).

Imaging Findings:

MR showed an image on the left corpus cavernosum, hypointense on T2-weighted sequences (relative to the normal cavernous), faintly hyperintense on T1-weighted sequences, with no significant signal increase after administration of intravenous paramagnetic contrast agent. The process described expands the corpus cavernosum, shifting the midline to the contralateral side, measuring approximately 78 x 21 mm (Fig. 1).

Discussion:

Background: The partial priapism is the most common manifestation of the unilateral partial thrombosis, characterised by affecting the proximal sector of the penis presenting a hardened perineal mass, being the remainder of the penis in a flaccid state [5]. Infrequently, discomfort or pain in the perineal region without palpable mass may also be present [3].

Clinical Perspective: The unilateral partial thrombosis of the corpus cavernosum is a rare entity and its aetiology is unclear so far, but repetitive microtrauma (cycling and vigorous sexual activity), marijuana abuse, smoking, blood diseases (sickle cell anaemia and congenital esferositosis), history of priapism and diseases predisposing to blood hyperviscosity, particularly leukaemia and lymphoma have been associated with this disease [1, 2, 3].

Imaging Perspective: MRI visualisation of thrombus presents different types of signal intensity on T1 and T2, depending on the stage of degradation of haemoglobin. The affected cavernous body appears enlarged and usually compresses or displaces the contralateral one [6].

Outcome: The clinical presentation (palpable painful mass in the perineal region or partial priapism), Doppler ultrasound and MRI are useful at the time of noninvasive aetiologic diagnosis of this condition [7]. That is why the
spontaneous signal hyperintensity in T1 suggests a period haematic content subacute (methaemoglobin) (4.6). The presumptive diagnosis was confirmed by surgical biopsy (Fig. 2). After 6 months an MRI control study showed a favourable radiologic (Fig. 3) and clinical evolution.

**Differential Diagnosis List:** Acute idiopathic segmental thrombosis of the left corpus cavernosum, Non recent intracavernosal haematoma, Arteriolacunar fistula, Tissue infarction, Fibrosis in the corpora cavernosa, Rhabdomyosarcoma

**Final Diagnosis:** Acute idiopathic segmental thrombosis of the left corpus cavernosum

**References:**

Figure 1

Description: Axial T2 (A), T1 (B), STIR (C) and T1 contrast (D). Image on the left cavernous body (arrows), hyperintense on unenhanced T1, hypointense on T2 with hyperintense rim. No significant enhancement on D. Origin: Napoli A, MR Department, Fundación Científica del Sur, Diagnóstico Por Imágenes Adrogué, Buenos Aires, Argentina.
Figure 3

Description: Axial T2 (A), T1 (B) STIR (C) and T1 with contrast agent. Control after surgery. Left corpus cavernosum with normal size and morphology (arrows). Origin: Napoli A, MR Department, Fundación Científica del Sur, Diagnóstico por Imágenes Adrogué, Buenos Aires, Argentina.