Case 15275

Acute vasitis: an unusual mimicker of epididymitis
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Section: Uroradiology & genital male imaging
Area of Interest: Genital / Reproductive system male
Procedure: Diagnostic procedure
Imaging Technique: Ultrasound
Imaging Technique: Ultrasound-Colour Doppler
Imaging Technique: MR
Special Focus: Inflammation Case Type: Clinical Cases
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Patient: 38 years, male

Clinical History:

A 38-year-old male patient presented with left groin pain radiating to the scrotum. He underwent an ultrasonographic examination in order to exclude testicular torsion.

Imaging Findings:

The ultrasound revealed a heterogenously hypoechoic mass adjacent to the head and body of epididymis representing the inflamed vas deferens. The colour Doppler showed increased blood flow within the "lesion". Magnetic resonance imaging (MRI) was performed in order to exclude testicular torsion, acute inguinal hernia or the presence of a neoplasm. The diagnosis of acute vasitis was confirmed by demonstrating remarkable thickening and coiled appearance of the right spermatic cord. The T2-weighted images depicted abnormal signal of right spermatic cord and surrounding tissues representing inflammation. The gadolinium-enhanced T1-weighted images showed asymmetric increased enhancement of the thickened vas deferens.

Discussion:

The vas deferens is a tubular structure, included in the spermatic cord, which connects the epididymis to the ejaculatory ducts and is about 30 cm long [1]. It is characterised by a thick muscular wall and an extremely small lumen [2]. The vas deferens is divided into 3 parts: scrotal, suprascrotal and prepubic. The scrotal segment, adjacent to the epididymal tail, has a coiled tortuous appearance, while the suprascrotal and prepubic segments are linear structures.

The inflammation of the vas deferens is called vasitis or deferentitis, while the inflammation of the spermatic cord is referred to as funiculitis. The more commonly described deferentitis is vasitis nodosa, a chronic benign condition following vasectomy. It is asymptomatic and does not require specific treatment. On the contrary, infections of the vas deferens are painful, infrequent and can occur in association with epididymo-orchitis or acute prostatitis. Primary infection has also been reported, but it is rare [2]. Pathogens include Escherichia coli and Haemophilus influenzae, indicating a retrograde spreading from the prostatic urethra, prostate, or seminal vesicle [1]. Patients may present with localised pain, swelling or palpable mass in and around the scrotal and groin area [3]. A bacterial culture of the blood, urine and semen may be required to identify the pathogen. The treatment is usually conservative with antibiotics. Surgical exploration with drainage may be required in severe cases [2].

When acute vasitis involves the scrotal segment, clinically differentiating it from epididymitis is difficult, while if the
suprascrotal or prepubic segment is affected, deferentitis presents as an inguinal mass, mimicking strangulated hernia [1, 3]. Sonography reveals a heterogeneously hypoechoic mass, while colour Doppler sonography shows increased blood flow within the lesion. Epididymal involvement or hydrocele may be accompanying findings.

The suprascrotal segment of the vas deferens is a cordlike structure with a full-thickness measurement from 1.5 to 2.7mm [1]. When vasitis involves this segment the thickness increases up to 2.2-6.4mm. The modality of Ultrasound implies the diagnosis but cannot establish it. Computed tomography (CT) and magnetic resonance imaging (MRI) are used to confirm the diagnosis of acute vasitis with cross sectional imaging and exclude other differentials. MRI has the advantage of protecting the patient from the risks of ionising radiation exposure. MRI is the preferred modality to detect vasitis, by depicting a focal abnormal signal in and around the vas deferens [3]. The oedema and inflammatory fat stranding are better appreciated on fluid sensitive sequences, while the T1-gadolinium enhanced images show swelling and increased vascularity of the affected vas deferens.

**Differential Diagnosis List:** Acute vasitis, Testicular torsion, Epididymo-orchitis, Acute inguinal hernia

**Final Diagnosis:** Acute vasitis

**References:**


Description: Gray scale ultrasound image showing a heterogeneously hypoechoic mass representing the inflamed vas deferens. Origin: Department of Radiology, Papageorgiou General Hospital, Thessaloniki, Greece
Description: Colour Doppler ultrasound revealed increased vascularity within the inflamed vas deferens. Origin: Department of Radiology, Papageorgiou General Hospital, Thessaloniki, Greece
Description: Coronal T2-weighted image showing abnormal signal of the left spermatic cord and surrounding tissues, sign of inflammation. Origin: Department of Radiology, Papageorgiou General Hospital, Thessaloniki, Greece
Description: Coronal T1-weighted image showing a remarkable thickening and coiled appearance of the right spermatic cord. Origin: Department of Radiology, Papageorgiou General Hospital, Thessaloniki, Greece
**Description:** Coronal gadolinium enhanced T1-weighted image showing asymmetric increased enhancement of the thickened vas deferens. **Origin:** Department of Radiology, Papageorgiou General Hospital, Thessaloniki, Greece