Acute Scrotum – When Ultrasound is Enough for the Diagnosis

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Section 2 – Answer

Case

A 45-year-old male presented to the emergency department with a progressive 5 days of pain in the right testicle. The examination showed a fever (38°C), an increase of the right testicle volume, and pain through palpation. Ultrasound (US) was performed, and what is your diagnosis?

Interpretation

The US showed an enlarged and hypoechoic right epididymis, with a heterogeneous echotexture [Figure 1a], and hyperemia in color Doppler US [Figure 1b]. Further, the spermatic cord has a hyperechoic fat, reactive to inflammation [Figure 1b].

There was a marked asymmetry in the volume of the testis, with an increase of volume and hyperemia of the right testicle [Figure 2].

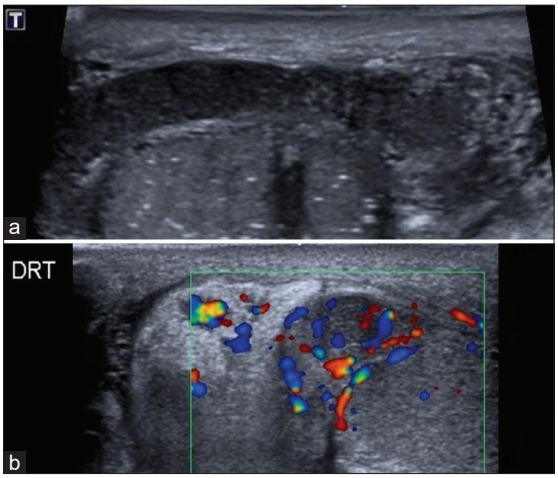

Figure 1: Gray-scale ultrasound of the right epididymis (a), and color Doppler (b) of the right epididymal head and spermatic cord, in the longitudinal plane

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These alterations in the right testicle were consistent with acute epididymal orchitis.

Beyond that, the US of the right epididymal tail showed a lack of blood flow in the central region of the tail, consistent with abscess [Figure 3].

Discussion

Acute epididymitis is one of the two most common causes of acute scrotal pain. In 20%–40% of these patients, there is also an involvement of the ipsilateral testicle (orchitis), as the infection progresses through the testicular parenchymal. Orchitis is rarely isolated.[1-3]

These conditions are caused by a retrograde bacterial infection from a lower urinary tract infection. Therefore, it is logical that the epididymal tail is involved before the body and head.

In the US, an inflamed epididymis appears enlarged, heterogeneous, and often hypoechoic due to edema. The color Doppler shows hyperemia, and it may be the only finding of acute epididymitis. Testicular involvement is confirmed

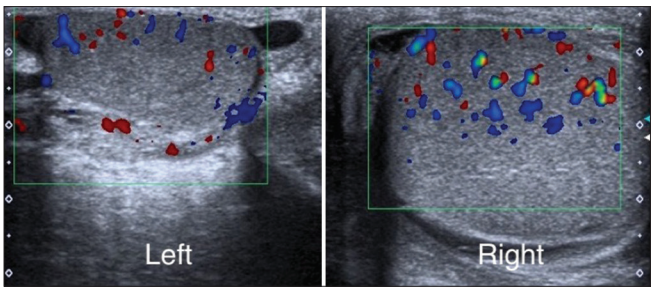

Figure 2: Color Doppler ultrasound in the longitudinal plane of both testicles

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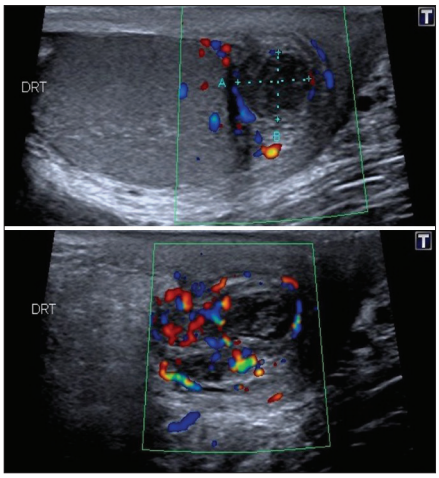

Figure 3: Color Doppler ultrasound in the longitudinal plane of the right epididymal tail

by the presence of an increased volume and heterogeneous echotexture. Sometimes, a reactive hydrocele/pyocele and scrotal wall thickening may be present.[1-5]

As a complication, such as in our case, abscesses may occur. They are represented in the US as a more hypoechoic focus with a lack of flow centrally in color Doppler.[1-5]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent form. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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