

Inflammation and infection

Acute right epididymo-orchitis complicated by pampiniform plexus thrombosis

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ABSTRACT

Acute scrotum considered to be a common and one of the urological top emergency cases. However, acute testicular pain due to testicular vein thrombosis is rare especially if this thrombosis considered to be a complication of an infection, and not due to varicocele or malignancy-related conditions. A rare case of right epididymo-orchitis case complicated by right pampiniform plexus thrombosis, which resolved spontaneously with no anticoagulant management., Testicular vein thrombosis considered to be a rare differential diagnoses of acute scrotum presentation. With a limited number of reported cases, it requires more evaluation to develop a proper medical approach.

Introduction

Acute scrotum is considered to be one of the most common urological emergency cases. On the other hand, acute testicular pain due to testicular vein thrombosis is extremely rare, especially if the thrombosis considered to be a complication of an infection involving the right side and not due to varicocele or malignancy-related conditions. According to Ktari Kamal et al. in their case report and their literature review regarding spontaneous pampiniform plexus thrombosis, "Spontaneous thrombosis of the pampiniform plexus is such an unusual condition that only 20 cases reported in the literature". The median age was 33 years \pm 13".¹ Because of the limitation in the reported cases number, the theory of applying the management guideline of deep venous thrombosis on testicular vein thrombosis and the role of anti-inflammatory in managing these conditions was not properly studied. We present our case of pampiniform plexus thrombosis as a complication of an acute right epididymo-orchitis.

Case presentation

A 41-year-old married male not known to have any chronic medical illnesses with no history of surgical procedures presented to ER with main complaint of right testicular pain and dysuria started two days before his presentation. His pain was mild, gradually increasing in

severity, and associated with right hemi scrotal swelling. The patient had a remote history of epididymo-orchitis, which was managed by oral antibiotics a few years back. He denied any other lower urinary tract manifestation, with no history of urethral discharge or recent illegal sexual contact, no history of fever, or upper respiratory tract diseases. In ER patient was evaluated by the urology on call, examination showed normal external genitalia with normal meatal opening, enlarged and tender right scrotum, both testes were palpable, right epididymis was thick and tender, both cremasteric reflex test and Prehn's test done and in favor of epididymitis. Urine dipstick bedside showed a positive nitrite, and basic blood works were unremarkable with ER u/s was done and showed (Fig. 1) an increase in the right testicular vascularity with epididymal enlargement, no evidence of varicocele bilaterally.

The patient was already reviewed by the primary care team before and started on oral antibiotics a few days prior to the ER presentation, but he didn't improve. So, due to his severe pain and the documented growth of E. COLI in his previous visit culture decision was to admit patient for parenteral antibiotics management, which was based on his culture sensitivity profile (Tazocin), the patient also was kept on anti-inflammatory, pain medication, and supportive care. Over the next three days, the patient improved clinically with no documented fever, urine analysis and culture became negative, and our plan was to discharge him on oral antibiotics. Upon discharge day, the patient developed severe sudden scrotal pain, which did not improve on

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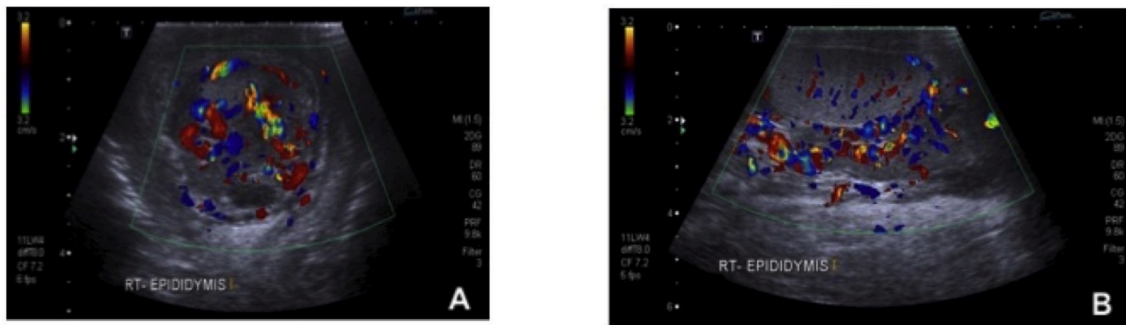


Fig. 1. Color Doppler Sonography showing an increase in vascularity in the right epididymis. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

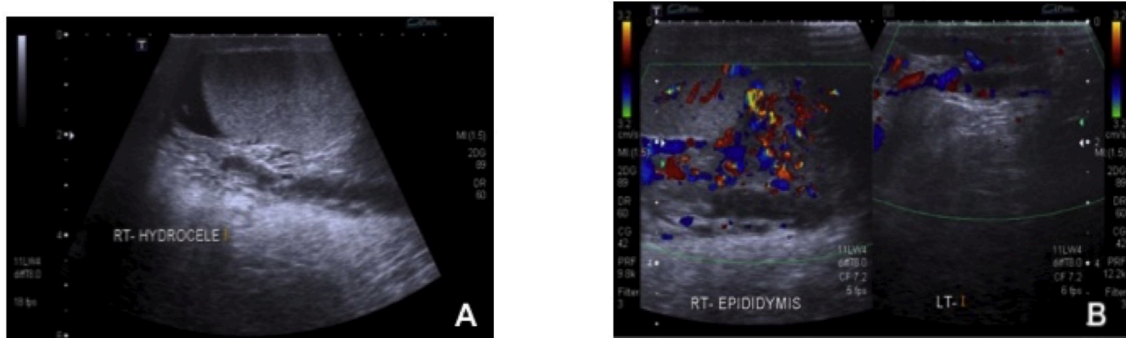


Fig. 2. U/S showing an echogenic distended pampiniform vessels with no evidence of flow in Color Doppler study most likely representing thrombus. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

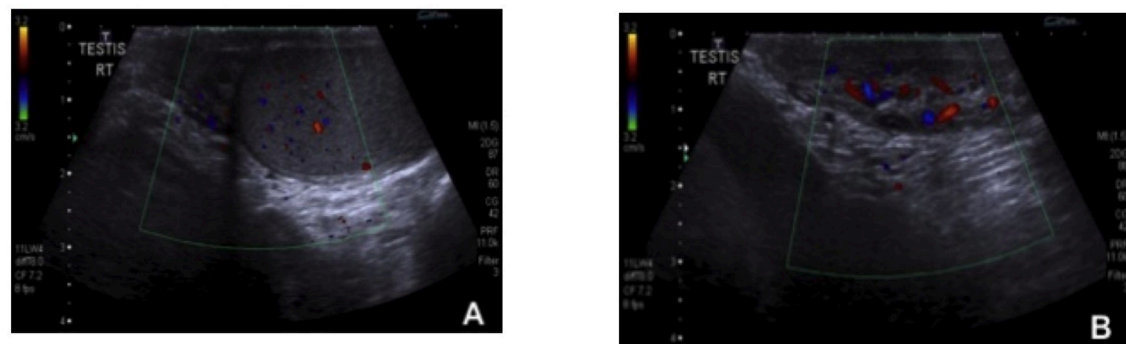


Fig. 3. F/U testicular Color Doppler Sonography showing a significant improvement in vascularity in the right epididymis with a complete resolution of the previously noted thrombus. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

analgesia, so the decision was to repeat his u/s urgently to roll out abscess formation or other concomitant testicular conditions. Repeated U/S (Fig. 2) showed an incidental finding of right pampiniform plexus thrombosis.

So, our decision was to keep him on conservative management, mainly pain control, without any therapeutic anticoagulant intervention. Over the next few days, the patient's condition improved dramatically, no more pain. So, he was discharged home with follow up in the clinic.

Six weeks later, patient was evaluated in the clinic. He improved clinically with a significant decrease in his scrotal swelling. His f/u ultrasound (Fig. 3) showed remarkable improvement in his epididymis with no evidence of thrombosis any more.

Discussion

Acute scrotal pain due to pampiniform plexus thrombosis is a very rare condition. In this case, the patient presented with right testicular vein thrombosis. However, it commonly occurs on the left side due to various anatomical factors, such as the compression of the left renal vein by the superior mesenteric artery and the perpendicular disposition of the left testicular vein drains to the left renal vein, which predisposes to low blood flow and stasis.²

Previous literature did not mention infection as one of the predisposing factors to thrombosis of the testicular vein, which might be considered as a contributory factor in our case. And sometimes the diagnosis can be challenging and most commonly misdiagnosed as, incarcerated inguinal hernia or testicular torsion, which might lead to unnecessary surgical intervention.³

The management of this condition with conservative measures is

documented and tried before. For example, Gleeson et al. recommend non-steroidal anti-inflammatory as a sufficient management option without the need to use anticoagulants.⁴ In another study by Nguyen et al. they suggest the use of anticoagulants for three months if the cause of the thrombosis is identified.⁵ Overall Simple pain management with a non-steroidal anti-inflammatory, for example, could be more than enough in managing these cases after treating the primary cause of thrombosis.

In our case, documented UTI infection, which complicated by epididymo-orchitis followed by thrombosis, is an obvious cause for patient second acute scrotum attack, which improved by pain management and managing the primary cause, which is UTI with a full antibiotic course.

The trail to apply deep venous thrombosis management protocol in managing testicular thrombosis is also documented. Theoretically, the idea of thrombolysis and long-term anti-thrombus management could help in improving the outcome and decreasing the recurrence, especially in the high-risk group like patients with malignancy. But in our case, the patient was healthy with no significant risk. So we decided not to proceed with the deep vein thrombosis management protocol, and we only treated him conservatively.

Conclusion

Acute scrotum due to testicular vein thrombosis is rare, with limited documented number of cases in the literature. Further evaluation of the outcome to compare the available management options is needed to establish an approved management recommendation in such cases.

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