



Testicular ischemia in patient with acute epididymitis: A rare case

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ABSTRACT

Testicular infarction and ischemia are rare complications of acute epididymitis. The condition is difficult to differentiate with testicular torsion clinically and radiologically. There are only a few cases that have been reported. In this study, we presented a case in a 45 years old male with acute pain in the left testicular. Left orchidectomy had been performed on the patient. Arterial thrombus and ischemia of the left testis were found by pathology examination. Although it is an uncommon case, it has been reported as a potentially serious complication of epididymitis and should be considered when acute scrotal pain is encountered.

1. Introduction

Epididymitis, which is an inflammation of the epididymis, is usually caused by ascending infection from the lower urinary tract. The infection can spread from the bladder, urethra, or prostate via the ejaculatory ducts and vas deferens into the epididymis. In most acute epididymitis cases, the testes are also involved in the process, and thus is referred to as epididymo-orchitis. Sexually transmitted infection is commonly the cause of epididymitis in sexually active men aged. There are serious sequelae such as orchitis, abscesses, and testicular infarction which may occur although this condition tends to be easily cured with antibiotics and analgesics.¹

Testicular torsion, incarcerated hernia, severe epididymitis, and iatrogenic injury are several possible causes of testicular infarction. This condition is often idiopathic. Patients between the age of 20–40 years are often affected. Similar to testicular torsion, the most common clinical manifestation of testicular infarction would be an acute onset of scrotal pain. The radiological presentation of testicular infarction will mimic testicular torsion and require immediate surgical treatment. Furthermore, the diagnosis is usually established following orchidectomy.² This case report study elucidated a case of acute scrotum in a 45 years old male.

2. Case report

A 45 years old male patient presented to the emergency department with scrotal pain, redness and swelling of the left scrotum, and fever since a week before admission. The complaints were accompanied by

nausea and vomiting. History of flank pain, hematuria, dysuria, and penile discharge was denied. There was no prior history of testicular torsion, testicular trauma, and unprotected sexual intercourse other than with his wife. Based on a previous Doppler ultrasound examination, left epididymitis and an inflamed left spermatic cord were found. Evidence of testicular torsion was not found. These findings were in line with epididymitis. The patient was admitted to the ward. Antibiotics, nonsteroidal anti-inflammatory drugs, and scrotal support were given. On the third day, the patient was still in pain (VAS = 3) with increased scrotal pain and swelling and increased white blood cell count.

On presentation, the patient appeared to be moderately ill and felt discomfort when walking. Vitals signs showed a temperature of 37.7° Celcius, pulse rate 102 beats per minute, respiratory rate 20 breaths per minute, and blood pressure 130/80 mmHg, with visual analog scale (VAS) 4. Costovertebral angle tenderness in percussion was not found. The scrotum was red in appearance and had no evidence of hernias. Testicular examination revealed left testicle edema with severe tenderness to palpation. Prehn's test was undecisive from the examination, the angle sign was negative, and the cremaster reflex was minimal. Laboratory studies showed elevated WBC count, and others were within normal limits. Left epididymitis and an enlarged left testicle with no vascularity, suspected with left testicular torsion, were revealed by a repeated doppler ultrasound.

We decided to perform left scrotal exploration, which showed a pale discoloration suggesting an ischemic process of the left testis and some necrotic areas with some normal residual testis tissue. A left orchidectomy was performed. Pathologic examination demonstrated arterial thrombus, believed to be secondary to epididymitis with spermatic cord

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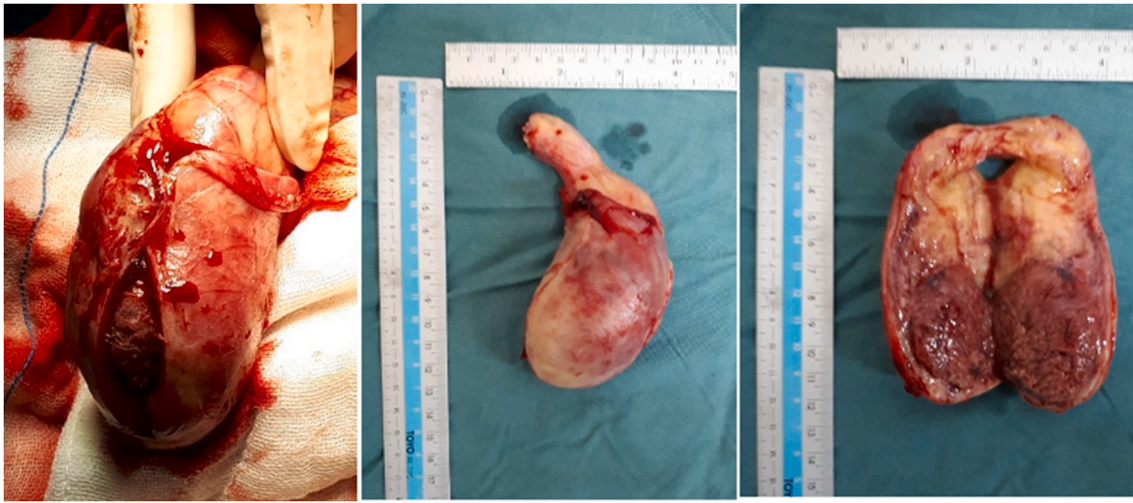


Fig. 1. The tunica albuginea of the testis was incised, revealing pale discoloration that suggests an ischemic process of the left testis.

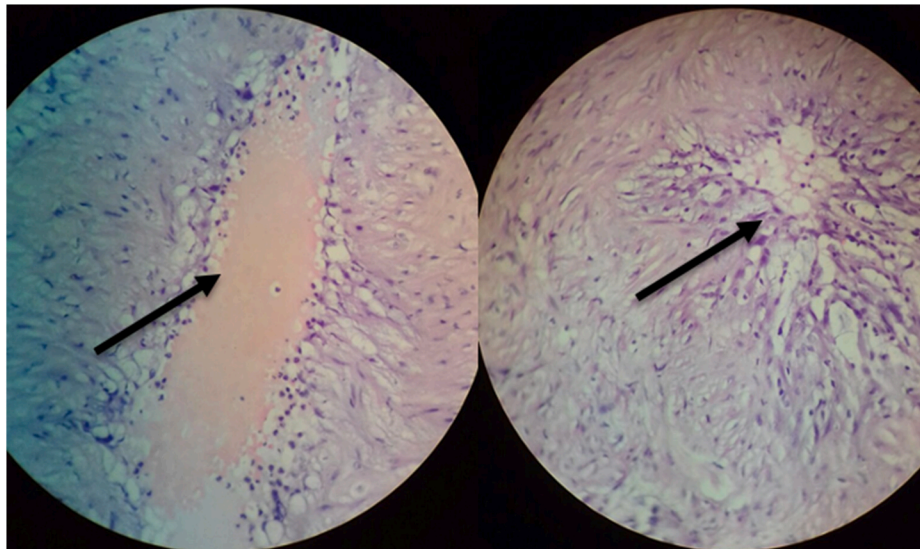


Fig. 2. Photomicrograph of left testicular tissue showing thromboses (arrows) in the artery with inflammatory infiltrate.

vascular disturbance (Fig. 1). An epididymo-orchitis was revealed by histological examination of the surgical specimen. There was an associated inflammatory infiltrate of neutrophils, lymphocytes, and abundant eosinophils levels in the interstitial tissue with capillaries dilatation. Inside the lumen, arterial wall thickening and a narrowing lumen containing thrombus were found (Fig. 2).

The surgery was successful without any complications. The patient was fully recovered with an excellent general condition improvement. The patient was discharged the following day after the surgery with no pain and fever.

3. Discussion

Epididymitis leading to testicular infarction is extremely rare. The testicular ischemic process can be segmental or diffuse, depending on the degree of vascular occlusion.² Venous obstruction due to edema, inflammation of spermatic cord, bacterial toxin causing endothelial damage, and thrombus formation are several pathogenesis of the testicular ischemia.^{2–4}

Testicular infarction as a result of epididymitis is rarely recognized and diagnosed on time. A study conducted by Mittenmeyer et al. reported

that there is no case of testicular infarction in a large sample ($n = 610$) of acute epididymitis. However, cases of testicular infarction after epididymitis have been reported in the urologic literature.³ Few cases of vascular impairment of the testis in epididymitis were reported and the most common etiology was venous obstruction. The veracious incidence of this disease process is unknown and may be underestimated.⁴

Several clinical findings can be considered to be aware of testicular infarction in patients with epididymitis, including severe unresolved epididymitis despite appropriate conservative treatment, sudden onset of testicular pain in patients who were initially improved with antibiotic treatment, history of recurrent epididymitis with an acute episode, tenderness palpable of a thickened spermatic cord that develops during treatment, and recurrent fever while the patients are taking proper medications.⁵

In this case report, the patient came to the emergency department with complaints of scrotal pain, left scrotum swelling, and fever. We ruled out testicular torsion, incarcerated hernia, and iatrogenic injury from the history taking and physical examination. Previously, the patient was prescribed antibiotics and nonsteroidal anti-inflammatory drugs, however, the pain and fever did not improve. In addition, the symptoms worsen. Left epididymitis and a left testicle enlargement with

minimal vascularity, suspected with left testicular torsion, were shown by a repeated Doppler ultrasound examination. This finding had supported the possibility of testicular infarction. After the surgery, testicular torsion was excluded in this case. Intraoperative findings suggested an ischemic process of the left testis that confirmed the diagnosis of testicular infarction. Arterial thrombus and ischemic of the left testis, assumed to be secondary to epididymitis with spermatic cord vascular disturbance were demonstrated by the pathologic examination.

4. Conclusion

Although rare, testicular infarction should be considered as a complication in patients with severe or unresolved epididymitis. Repeated color Doppler ultrasound examination of the testes should be performed, and a urology referral should be considered for possible admission and surgical exploration.

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Declaration of competing interest

None.

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