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Case Report

# Necrotic Testicular Pulp Due to an Intra-Testicular Abscess, an Uncommon Complication of the Epididymo-Orchitis: Case Report

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**Keywords**

- Epididymo-Orchitis
- Testicular Abscess
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## ABBREVIATIONS

MRI: Magnetic Resonance Imaging.

## INTRODUCTION

Testicular abscess and global testicular infarction are rare consequences of epididymo- orchitis, particularly when appropriate antibiotic treatment is given. The imaging technique used to check for testicular ischemia is ultrasonography. However, testicular pathology may not be visible on normal imaging, as stated in the literature.

It is challenging to anticipate and differentiate testicular infarction from more typical manifestations of acute scrotum, a catastrophic consequence of epididymo-orchitis.

## CASE PRESENTATION

F.A, a 55 years old male patient with high blood pressure and chronic kidney disease, The history of the illness dates back one month, when the patient experienced pain in his right testicle and a burning sensation when urinating. This prompted him to consult his primary care physician, who prescribed ceftriaxone 2 g/day for 15 days.

As the clinical signs persisted, the patient came to our clinic with right-sided testicular pain associated with dysuria and fever. The examination found an inflamed and hard right testicle. He had a high C-reactive protein level (192 mg/l) and total with cell count (13,4 x 10^9 / L). The patient underwent a scrotal doppler ultrasound, which revealed:

-Intra-scrotal testicle, enlarged in size, with regular contours, heterogeneous echo structure consisting of well-defined confluent hypoechoic areas, non-vascularized on Doppler, covering the entire testicle measuring 30x45x48 mm. (Figure 1)

-Swollen and heterogeneous epididymis measuring 20 mm

A surgical exploration of the scrotum was indicated, revealing inflamed tunics and a completely abscessed right testicle with necrotic testicular pulp, warranting an orchiectomy, under antibiotic cover (Figure 2,3)

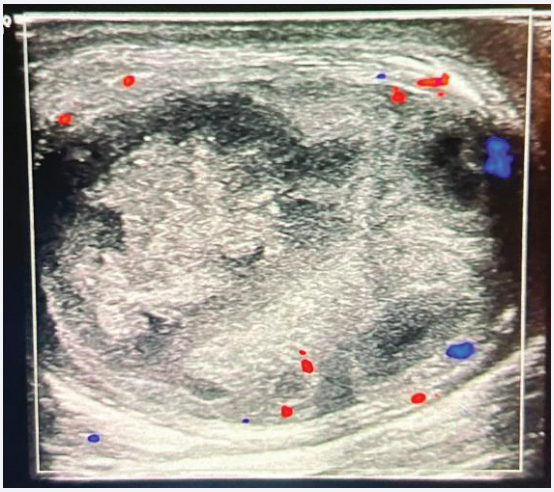

**Figure 1** Doppler-Ultrasound showing the confluent hypoechoic areas, non-vascularized.

**Figure 2** Peroperative picture show the pus

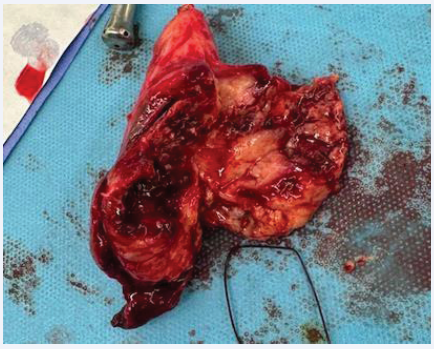

**Figure 3** Post operative picture show the necrotic testicular pulp.

The results of the cytobacteriological study of the pus revealed an infection with carbapenem- sensitive ESBL-producing E. coli. Histopathology revealed cute inflammatory changes with suppuration. The interstitial tissue contains numerous congestive vessels.

The follow-up was unremarkable, with improvement of symptoms after 2 weeks under carbapenem antibiotic.

## DISCUSSION

Rare side effects of epididymo-orchitis when proper antibiotic treatment is administered include testicular abscess development and ischemia [1]. Although the precise mechanics are still unknown, theories that have been put forth indicate that a compartment syndrome is successfully produced by compressing the testicular and epididymal vasculature [2,3].

Additional luminal compression may be caused by tissue edema, exudates, and acute inflammatory alterations. Concurrently, endothelial dysfunction and venous congestion with the thrombosis they cause raise pressure and cause hypoxia.

Potential warning symptoms of ischemia were present in our case and included spermatic cord thickness and discomfort, recurrent epididymo-orchitis, rapid worsening of pain despite initial clinical improvement, and non-resolving infection despite proper antibiotic therapy [4].

The research shows that using ultrasonography alone to detect testicular disease may miss the diagnosis [5]. It has been noted that contrast-enhanced Magnetic Resonance Imaging (MRI) is accurate on detecting necrosis

Incision of the tunica albuginea may theoretically lessen the compartment effect within the testis if compartment syndrome is the primary cause of testicular ischemia and the diagnosis is made early before irreparable testicular damage occurs. Grafting with tunica vaginalis to cover the defect after capsulotomy of the tunica albuginea has been reported to restore the compartment pressure to normal [6]. In order to increase testicular blood flow, Figueroa and his team developed this method for patients who had testicular torsion and were surgically treated with de-torsion and capsulotomy. However, the use of this surgical technique in cases with infectious processes has not yet been tested. [7]

We report a case of acute epididymo-orchitis that required surgical investigation and orchiectomy after developing into an abscess and ischemia. Elevated compartment pressures may contribute to circulatory deprivation. However, the precise process of ischemia is still being studied. Ultrasonography may improve early diagnosis of abscess or ischemia, resulting in therapeutic optimization.

## CONCLUSION

Clinical professionals should be on the lookout for a testicular abscess when recurrent epididymo-orchitis is present. Routine imaging may not initially show this, which emphasizes the importance of other modalities like MRI in case where ultrasound examination is ambiguous or contradictory with the clinical presentation. This example serves as a timely warning that, even with the right antibiotic treatment, the development of a testicular abscess cannot be ruled out.

## DECLARATION

### Ethical Approval

Ethics approval has been obtained to proceed with the current study

Ethical approval for this study (Ethical Committee N⁰09-24) was provided by the Ethical Committee Ibn University Hospitals, Rabat Morocco on 22 January 2024

### Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of the journal.s

### Availability of Data and Materials

Supporting material is available if further analysis is needed.

### Scare Guidelines

The work has been reported in line with the SCARE criteria.

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