

CASE REPORT



Gonococcal epididymo-orchitis in an octogenarian

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ABSTRACT

Epididymo-orchitis (EO) is inflammation of the epididymis and testicles. In patients older than thirty-five years, it is commonly due to coliform or uropathogenic organisms, whereas younger adults are prone to sexually transmitted infections. We present a relatively infrequent case of gonococcal EO in an octogenarian. This case describes a geriatric male who presented to the emergency department in septic shock. His history was notable for prostate cancer, urinary incontinence and multiple sexual partners. He endorsed perineal pain, localized tenderness with chills and dysuria, and was eventually diagnosed with bilateral EO and hydroceles on repeat ultrasound. PCR was positive for *N. gonorrhea*. His symptoms responded well to fluid resuscitation and antimicrobial therapy. This case demonstrates that EO secondary to sexually transmitted infections is an important consideration in even the oldest old. It is therefore imperative to obtain a detailed sexual history and identify high-risk sexual behaviors in this population.

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1. Background

Epididymo-orchitis (EO) refers to the concurrent inflammation of the epididymis and testicles. In the acute setting, symptoms may include pain and swelling which typically last for less than six weeks[1]. However, in the chronic setting, pain may be the only presenting symptom and can persist for more than three months [1–3].

In men under the age of thirty-five years, sexually transmitted infections are most commonly responsible and attributed to *Chlamydia trachomatis* or *Neisseria gonorrhoeae*. However, in men above this age range, bacteriuria is a more common cause and can be secondary to bladder outlet obstruction, urinary tract infection, urinary instrumentation, prostate biopsy, and systemic disease[2]. Although *Neisseria gonorrhoea* can theoretically cause acute EO in the elderly, it is infrequently seen in clinical settings.

We report a case of acute bilateral gonococcal epididymo-orchitis in an eighty-one-year-old male, which occurred following a sexually transmitted infection, in the context of high-risk sexual behavior.

2. Case summary

This case is of an eighty-one-year-old Caucasian gentleman with a prior medical history of recurrent urinary tract infections, prostate cancer followed by prostatectomy, and urinary incontinence for which he underwent permanent placement of an artificial urinary sphincter (AUS). He presented to the emergency department with

right-sided perineal pain, radiating towards his lower back, along with rigors and chills, for five days. He denied dysuria, urinary urgency, urethral discharge, scrotal erythema or swelling. He was sexually active, however denied a history of previous sexually transmitted infections. Review of his social history elicited high risk sexual behavior with five sexual partners in the preceding year.

Upon arrival, he was septic with hypotension and tachycardia. Physical examination was significant for a slightly erythematous scrotum, without tenderness or edema, and right-sided focal tenderness in the perineal area, without notable fluctuance. Digital rectal examination was unremarkable. Urine analysis was positive for leukocyte esterase, and negative for nitrites and bacteria. Laboratory findings revealed leukocytosis and an elevated C-reactive protein. Scrotal ultrasound was ordered however it was not suggestive of any acute process.

The patient was admitted to the medical floor and initiated on intravenous normal saline and empiric antibiotic therapy with piperacillin-tazobactam. By the second day, he began to develop burning upon urination with increasing perineal pain, and by day four, the patient reported persistent pain and

increasing scrotal swelling. In view of these symptoms, a repeat scrotal ultrasound was obtained which revealed bilateral epididymo-orchitis, complex hydroceles, and perineal edema. Polymerase chain reaction (PCR) assay returned positive for *N. gonorrhoea*. Following clinical improvement, he was switched over to oral doxycycline. Upon discharge, he was advised to complete a fourteen-day course of antibiotic therapy and safe sexual practices were also advised.

3. Discussion

Acute EO secondary to *Neisseria gonorrhea* is an uncommon finding in the geriatric population. The presence of scrotal pain, tenderness, and edema is suggestive of the diagnosis. Symptoms may also include fever, dysuria, hematuria, and urinary frequency [1]. Findings on physical examination include tenderness and swelling of the epididymitis and scrotum. Prehn's sign may also be positive, which is suggested by improvement in pain with elevation of the testicles. Older adults, in particular, can manifest severe systemic illness such as septic shock seen in this patient. Predisposing factors include urinary tract infections, sexually transmitted infections, prostate or urinary tract surgeries or instrumentation, urinary tract outflow obstruction, and trauma [1].

Diagnosis is primarily clinical and based on history and physical examination. However, it is imperative to rule out urologic emergencies, such as testicular torsion, with ultrasonography. As opposed to gradual onset of pain seen in acute EO, testicular torsion typically presents with a sudden onset of severe pain with nausea and vomiting, in the absence of fevers and urinary symptoms [4]. Exam findings may reveal high-riding testis and absence of cremasteric reflex. Ultrasound findings are conclusive in the absence of blood flow on color Doppler [4].

In patients with suspected acute EO, urine analysis should also be obtained, followed by a urine culture if indicated. Testing for sexually transmitted infections with nucleic acid amplification for *N. gonorrhoeae* and *C. trachomatis* is also important [5]. Laboratory evaluation should include white blood cell count and C-reactive protein, which is useful for disease monitoring and differentiating epididymitis from other non-infectious conditions [1,6]. Ultrasound findings may include epididymal prominence, hyperperfusion, hydrocele and testicular involvement [7]. However, it is important to note that initial ultrasound findings may be negative as seen in this patient, for which reason treatment should be based on clinical judgment.

The underlying cause of acute EO may be attributed to a sexually transmitted infection or due to the retrograde flow of infected urine into the ejaculatory duct in the presence of an outflow obstruction of the lower urinary tract [5]. More than half of men above the age of sixty years who develop acute epididymitis have an underlying urinary tract obstruction, such as urethral stricture, benign prostatic hyperplasia, and prostate cancer [5]. Although the AUS is widely used for post-prostatectomy incontinence, its most common complication is urinary retention which is seen in thirty-one percent of cases [8].

Although acute EO is often attributed to urinary tract infections in older adults, this case highlights the importance of considering sexually transmitted infections in even the oldest old. Unfortunately, sexual history is often not elicited in geriatric patients despite the fact that many of them are sexually active. This case demonstrates the importance of obtaining a sexual history and identifying high-risk sexual behavior in older adults.

Treatment for acute EO includes empiric antibiotic therapy, fluid resuscitation, bed rest, and analgesics [6]. Patients with severe symptoms or signs suggestive of systemic infection should be admitted to the hospital. Antibiotic therapy should constitute ceftriaxone and doxycycline in adults younger than thirty-five, ceftriaxone and levofloxacin in adults who practice insertive anal intercourse, and levofloxacin or ofloxacin in adults above thirty-five years [1]. Inadequate treatment can lead to complications like infarction, abscess, and chronic epididymitis.

4. Conclusion

Acute EO is commonly attributed to coliform bacteria in older adults, however sexually transmitted infections should also be considered in this population. It is therefore important to obtain a comprehensive sexual history in all patients presenting with EO irrespective of their age. This case also highlights that older adults are particularly prone to systemic complications. For this reason, hospitalization with early antibiotic therapy and fluid resuscitation is imperative to prevent further complications.

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