

# An Unusual Complication of Epididymo-Orchitis: Scrotal Pyocele

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## ABSTRACT

A number of diseases present with swollen and tender scrotum. The differential diagnostician such a case includes testicular torsion, epididymitis, epididymo-orchitis (EO), and a scrotal abscess<sup>[1,2]</sup>. A scrotal pyocele is an uncommon complication in the present times especially in a patient with no other pre-existing comorbidities and a short history of just a week. We discuss here one such case of Scrotal pyocele which is unique in its presentation as the patient had complete inguinoscrotal involvement which clinically mimicked an obstructed inguinal hernia. Radiology images suggested a multiloculate collection and surgical exploration confirmed it to be a multi-cystic pyocele consisting of 5-6 large, tense, pus filled cavities.

**KEY WORDS:** epididymo-orchitis, obstructed inguinal hernia, scrotal abscess, scrotal pyocele, testicular abscess

## INTRODUCTION:

Scrotal pyoceles are purulent collections within the potential space between the visceral and parietal tunica vaginalis surrounding the testicle. The presentation of scrotal pyoceles is subacute onset of pain and swelling, which may mimic other pathology. We present one such case wherein a definite diagnosis could be made only with a combination of clinical, radiological and intra-operative findings.

## CASE REPORT:

A 60 year old male presented to the OPD with swelling in bilateral scrotum (Left > Right) since last 10-15 days. It started as a small inguinoscrotal swelling on the left and progressed to involve entire inguinoscrotal area up to the base of scrotum and also the right scrotum. Overlying Skin temperature was normal and no tenderness was present. Both the testis couldn't be appreciated separately.

The patient had history of burning in micturition but no pus discharge or hematuria. There was no history of increased frequency of urination or urinary urgency.

There was no history of fever. Past medical history was unremarkable with no h/o any genital rashes or multiple sexual partners or per-urethral discharge pointing towards any sexually transmitted disorder(STD). Patient's vitals were stable and other systemic examination showed no marked abnormality. There was no other visible swelling elsewhere and no lymphadenopathy noted.

Routine blood investigations showed Hb – 10.2 gm/dl, Platelet count of 2.1 lakh/mm<sup>3</sup> and raised White blood cell counts (16,400/mm<sup>3</sup>) with 76.1% neutrophils. Random Blood Sugar was normal (123.4 mg/dl) and renal function was borderline (Urea: 42.9 mg/dl, Creatinine: 1.29 mg/dl). HIV was non-reactive. Urine examination had few pus cells suggestive of urinary tract infection, which was confirmed by urine culture showing growth of E. Coli colonies. A Foley's catheter was placed to monitor urinary output and primary therapy with intravenous fluids and antibiotics was started. Inguinoscrotal region USG demonstrated bilaterally enlarged testis (left > right) with normal echotexture with mildly increased vascularity and an enlarged left epididymis, along

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Figure 1: Gross image showing large inguinoscrotal swelling.

the urinary bladder. CECT inguinoscrotal region showed enlarged left scrotum with multiple septate collection from inguinal region encircling the left bacterial origin occurs via retrograde spread in around 20% of cases with epididymitis<sup>[1]</sup>. The responsible organisms for this urinary tract infection ascending infection vary with the age of the patient. In adults testicle. In post contrast study, the septations revealed enhancement. Left epididymis and spermatic cord were also thickened while the testicle measured normal in size (3.44 \* 2.90 cm). Right scrotum showed non-septate fluid collection with normal sized right testicle and epididymis with no evidence of small bowel herniation in left scrotum.

Considering all the clinical and investigative evidences, a pre-op provisional diagnosis of Left Epididymo-orchitis with Bilateral Chronic hydrocele was made. Surgical exploration was done which revealed multiple (7-8) large cystic fluid filled cavities having pus collection contrary to a single multiseptated cavity and an excision of cysts with left orchidectomy (due to involvement of surrounding tissue) was done. Post-operative course was uneventful, and the patient recovered well.



Figure 2: Axial and Coronal CT images showing a multiloculated cavity.



Figure 3: Intra-op Image showing multiple cavities aligned together.

with multiple cystic pouches having clear fluid within the left scrotum and epididymis. Right testis appears normal in shape, size, echo texture. USG abdomen showed no abnormality in bilateral kidneys, ureters or



Figure 4: Image of a single intact pus filled cavity.

Histopathology of the excised tissue revealed inflammatory changes in the testis.

## DISCUSSION:

Epididymitis and Epididymo-orchitis are common diseases and quite frequently present in surgical OPD's. Epididymo-orchitis which has a under age 35 years, it's usually secondary to Chlamydia trachomatis or Neisseria gonorrhoea<sup>[1]</sup>. Risk factors for Escherichia coli and other Gram-negative enteric species causing the same include old age, neurogenic bladder, obstruction of the bladder outlet, congenital genitourinary abnormalities, and past instrumentation in the genitourinary tract<sup>[2]</sup>. Treatment for EO includes antibiotics, use of a scrotal supporter, NSAID etc.

Although Epididymitis and EO usually resolves after adequate antibiotic treatment, but several complications have been reported. Epididymitis may evolve into a chronic infection that requires an epididymectomy for persistent pain<sup>[3]</sup>. Parenchymal damage from EO may culminate in testicular atrophy and infertility. EO uncommonly degenerates into a testicular abscess. Chronic smoldering testicular abscesses have been rarely documented to form fistulous tracks with either the scrotal skin or the contralateral testicle. Testicular abscesses have uncommonly been reported to rupture within the scrotum, leading to a pyocele<sup>[4]</sup>. Scrotal abscesses may result from intra-abdominal infections such as perforated appendicitis, and spontaneous bacterial peritonitis extending into the dependent scrotum via a patent processus vaginalis<sup>[5,6]</sup>. Interestingly, perforated appendicitis has been reported to cause a scrotal abscess<sup>[7]</sup>. Another unusual cause of a testicular abscess is genitourinary tuberculosis in patients with AIDS (acquired immune deficiency syndrome)<sup>[8]</sup>.

The CT scan eliminated the possibility of an intra-abdominal infection that migrated into the scrotum as a cause of our patient's groin inflammation. It also helped rule out the presence of a small bowel obstruction (SBO). The ability of a CT scan to differentiate between strangulated omentum within an inguinal hernia and inguinoscrotal pus is unknown, as no direct literature exists on this topic<sup>[9,10]</sup>.

Another rare hernia that could mimic our patient's presentation is that of a Richter's hernia (RH)<sup>[11,12]</sup>. Both an inguinal RH and an inguinoscrotal pyocele could have several overlapping signs and symptoms such as fever, an elevated WBC count, infrequent vomiting, and inguinoscrotal inflammation

However, the final diagnosis in such cases is only uncovered by surgical exploration. Treatment of scrotal pyoceles secondary to suppurative EO includes antibiotics, incision and drainage of the abscess cavity, and orchidectomy of the involved testicle in most cases<sup>[13]</sup>.

The presence of a scrotal abscess should alert the clinician to assess the patient carefully for an accompanying intra-abdominal infection that may have migrated into the scrotum by way of a patent processus vaginalis. It is important to be mindful of patients with epididymitis or EO who are not improving or who worsen while on antibiotics. Such patients may be harboring an abscess<sup>[14]</sup>.

## CONCLUSION:

Hence a detailed work up with biochemical and radiological investigations help in reaching the correct diagnosis and prompt management avoids further complications such as Fournier's gangrene.

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