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A CASE REVIEW OF A 64-YEAR-OLD MALE WITH LEFT SIDE EPIDIDYMO-ORCHITIS – DISCUSSION AND MANAGEMENT

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ABSTRACT

Background: Epididymo-orchitis (EO) is an acute inflammation of the epididymis and testis, which results in acute scrotal pain in adult men. It is caused by bacterial spread from the lower urinary tract through the vas deferens to the epididymis and testis. Men aged under 40 years are frequently present with sexually transmitted infectious agents like Chlamydia trachomatis and Neisseria gonorrhoeae, whereas men aged above 40 years usually develop EO due to enteric gram-negative organisms, mainly Escherichia coli. Diabetes mellitus is considered to be a risk factor due to impaired immune defenses and an increased chance of urinary tract infection. Doppler ultrasound is used to confirm the diagnosis and remove the need for surgical conditions like testicular torsion. **Case Presentation:** We describe a case report of a 64-year-old male with long-standing uncontrolled diabetes who presented with a 10-day history of progressively worsening left-sided hemiscrotal pain, swelling, and intermittent low-grade fever. On physical examination, the patient revealed left scrotal tenderness, swelling, and testicular tenderness. Urinalysis and culture were negative. Doppler ultrasound findings supported left-sided epididymo-orchitis and excluded torsion, hernia, and other acute scrotal pathology. Laboratory results showed uncontrolled elevated blood glucose levels. **Management and Outcomes:** The patient was hospitalised, and broad-spectrum IV antibiotics were considered based on his age, suspected gram-negative infection, and high-risk diabetic status. The antibiotic regimen covered a broad range of enteric and anaerobic organisms. Supportive treatments such as scrotal elevation, analgesics, and intensive insulin therapy to restore glucose levels. The patient showed consistent improvement with a reduction in scrotal swelling, cord tenderness, fever resolved ,and glycemic levels improved to the target range. By day 8-10, he was clinically stable and discharged on oral clindamycin, linezolid, pantoprazole, and continuation of insulin therapy, with diabetic dietary advice. **Discussion:** This case highlights the presentation and management of EO in an older diabetic man. The gradual onset of pain, unilateral swelling, and low-grade fever were classic signs, differentiating the testicular torsion, which presents with sudden, severe pain. The risk of infections and complications like abscess formation and infarction is highly related to the uncontrolled diabetes of the patient. Administering broad-spectrum antibiotic therapy and strict blood glucose management were essential in the patient's improvement. Most patients recover fully, but recurrence and complications can happen more often in diabetics and need strict follow-up. **Conclusion:** Early correct diagnosis, appropriate antibiotic therapy covering enteric organisms, excluding testicular torsion by Doppler imaging, and glycemic control are musts in managing the epididymo-orchitis in older diabetic patients. This case highlights the need to identify high-risk patients early to decrease complications and ensure healthy recovery.

KEYWORDS: Supportive treatments such as scrotal elevation, analgesics, and intensive insulin therapy to restore glucose levels.

INTRODUCTION

Epididymo-orchitis (EO) is an acute bacterial inflammation of the epididymis and ipsilateral testis, most often arising from an ascending urinary tract or sexually transmitted infection. Patients generally present with unilateral scrotal pain, swelling, erythema and fever. Examination often reveals an indurated epididymis and hydrocele. Ultrasound is an important method to confirm the diagnosis and exclude surgical causes (e.g. torsion) and antibiotics plus supportive care (analgesics, scrotal elevation) should be started immediately.[1] Treatment is based on the patient's age and risk factors (young men cover Chlamydia/Neisseria, older men cover coliforms).[7]

Epididymo-orchitis has a special clinical significance for patients with poorly controlled diabetes mellitus. Diabetes is a well known predisposing factor for urinary and genital infections, diabetic men often have recurrent UTIs and are immunocompromised.[4] [6] As a result, epididymo-orchitis in diabetic patients may be more severe and prone to complications.[6] Case reports document diabetic patients developing emphysematous (gas-forming) infections, abscess formation, even Fournier's gangrene if the diagnosis is delayed. Common pathogens in diabetic EO include E. coli and other gram-negatives, fungal infections have been reported in immunosuppressed diabetic patients.[5] [6] Strict glycemic control is crucial as persistent hyperglycemia impairs host immune defenses and correlates with worse infection outcomes.[2]

If left untreated or inadequately treated epididymo-orchitis can lead to serious complications. Infections may exacerbate to form epididymal or testicular abscesses, cause testicular infarction or necrosis, progress to sepsis or chronic scrotal pain with infertility. In diabetic men, vascular diseases may further compromise testicular perfusion making infarction or orchiectomy more likely.[4] [6] Thus, early recognition and aggressive management of epididymo-orchitis in older diabetic patients is essential to prevent irreversible damage.[5] [6] In this case of a 64-year-old man with uncontrolled diabetes and left epididymo-orchitis, we highlight the importance of early diagnosis, broad antimicrobial therapy and simultaneous glycemic control to prevent severe sequelae in this high-risk population.[2] [4]

CASE PRESENTATION

A 64 year old male patient was apparently normal 10 days back after he visited the hospital with the complaint of pain over the left hemiscrotum for 10 days and fever (1 episode/day) about 4 days back. he developed the pain over the left hemiscrotum which was insidious in nature and gradually progressive in nature. He had no history of loose stools, constipation, ENT Bleed, abdominal pain and nausea/vomiting. he had past history of T2DM and On physical finding patient was conscious, oriented and afebrile, his vitals were normal(BP: 120/80 mmHg,PR:78/min).

On systemic examination

CVS: S1 S2 +,
RS : B/L AE +
P/A :soft, Bowel sounds +Non -tender

On local examination

ON INSPECTION

Swelling over hemiscrotum + No dilated or engorged vein over the scrotum, No skin neurosis, No redness, No warmth and No pus discharge or serous discharge.

ON PALPATION

Inspectory findings confirmed that LEFT CORD TENDERNESS+ LEFT TESTICULAR TENDERNESS + prepuce retractable and No meatus bleeding, no tenderness on right side testis and right side cord, no scrotal rugosity.

DISCUSSION

Acute epididymo-orchitis is a common cause of acute scrotal pain in adult men. It occurs when the infection spreads from the lower urinary tract either from the bladder or prostate up to the vas deferens to the epididymis and testis. Nationwide data estimate over 600,000 yearly visits for epididymitis in the US. The epidemiology is age-dependent, men less than 40 years of age usually have sexually transmitted pathogens (e.g. *Chlamydia trachomatis*, *Neisseria gonorrhoeae*), whereas men over 40 years of age; like this patient, most often have enteric gram-negative infections (e.g. *E. coli*) from urinary sources. Other risk factors include urinary instrumentation, chronic prostate disease, or systemic factors (our patient's longstanding diabetes). Immunocompromised or diabetic patients in particular are associated with more severe symptoms. Clinically, the patient's gradual-onset left hemiscrotal pain, unilateral swelling and fever are classic symptoms for epididymo-orchitis. On exam, these patients typically have scrotal tenderness and swelling which is often unilateral, with the epididymis especially tender and sometimes the testis itself. The skin may be warm, erythematous and indurated, although notably our patient had no marked redness or warmth. Low-grade fever and systemic signs are common; indeed our patient reported daily fevers in the days prior to admission. The presentation of gradually worsening pain and induration over days contrasts with acute testicular torsion, which causes sudden severe pain. However, given the overlap in symptoms, scrotal ultrasound with Doppler is essential to confirm epididymo-orchitis which shows an enlarged, hyperemic epididymis or testis and to rule out torsion.[6][8]

Diagnosis is based on history and exam, supported by investigations. Urinalysis and cultures are obtained to identify urinary pathogens; a urethral swab can be done if an STD is suspected.[6] Ultrasound is used for all acute scrotal pain to exclude torsion and to detect complications; in epididymo-orchitis, it shows an enlarged, heterogeneous epididymis and on Doppler it

often shows increased blood flow.[6][8] In our patient's case, the diagnosis was made clinically and supported by ultrasound and lab results. Importantly, the clinical differential includes testicular torsion, incarcerated hernia, orchitis (e.g. mumps), hydrocele, spermatocele, trauma, or tumors. Classic teaching and guidelines emphasize ruling out torsion, since torsion pain is sudden and is more common in younger men.[6][9] Specifically in this patient (age 64 with urinary risk factors, low fever and gradual onset), torsion was unlikely, but still required exclusion. The Bucks formulary similarly notes that epididymo-orchitis must be distinguished from torsion (which presents with acute pain, usually in less than 20 year-olds, without urinary symptoms or discharge).[9] No other acute scrotal pathology (e.g. obstructed hernia or tumor) was evident on exam, reinforcing the diagnosis of epididymo-orchitis.

Antibiotic therapy and supportive care are the first treatments after diagnosis. According to the British Association for Sexual Health and HIV (BASHH) guideline (2020), either oral co-trimoxazole or co-amoxiclav should be taken for ten days if a man over 35 has an enteric coliform infection.[10] In contrast, younger men with possible STIs should get ceftriaxone along with doxycycline.[6] [9] In practice, hospitalized patients with severe infection from Pseudomonas and anaerobes especially with diabetes or high fever often receive broad-spectrum IV antibiotics. In our patient, the treatment used was IV ampicillin, amikacin i,e, a penicillin plus an aminoglycoside and metronidazole. Ampicillin along with amikacin covers a wide range of Gram-negative organisms including E. coli, Proteus, Klebsiella and even Pseudomonas to some extent, while metronidazole covers anaerobic bacteria. By contrast, The British Association for Sexual Health and HIV would often use oral co-trimoxazole or amoxicillin in a milder outpatient setting.[10] The patient was also given Clindamycin 300 mg and linezolid, which covers Gram-positive organisms, particularly Group A Streptococcus (GAS).

By discharge (day ~10), the patient had clinically improved, scrotal swelling and cord tenderness had markedly decreased. His stable vitals, normalized labs, and resolved fever indicated recovery. Antibiotics were switched to oral agents (the discharge Rx included a broad agent and linezolid) to complete a full course. The advice was to continue diabetes diet and insulin therapy to prevent recurrence. Evidence suggests that most men recover well from acute epididymo-orchitis if treated on time, but chances are relapse can occur with noncompliance.[6] In one large series, only about 5% of patients suffered testicular loss or atrophy after epididymo-orchitis, and recurrences occurred in ~14%.[11] Close follow-up is very important, and our patient was advised to return if symptoms like fever, severe pain reoccur or if any new issues like urinary symptoms arise.

In summary, this case is a typical example of epididymo-orchitis in an older diabetic man with gradual onset of scrotal pain and swelling along with fever, caused by presumed gram-negative urinary infection. The diagnosis was clinical, supported by ultrasound to rule out torsion. Treatment was broad spectrum antibiotics covering enteric bacteria along with anti-inflammatory drugs and glycemic control measures. Differential diagnoses such as torsion and inguinal hernia were considered, examined and excluded. The patient showed positive response and post discharge instructions were given to him and immediate return was advised in case he experiences any kind of new pain or symptoms.

MANAGEMENT

Mr. Vengopal E is admitted to hospital because he was diagnosed with Left Sided Epididymo-orchitis. During 8 days of hospital stay, we started with intravenous treatment. We used the medications ampicillin, amikacin, and metronidazole as initial treatments. We covered broad-spectrum antibiotics targeting Gram-positive, Gram-negative, and anaerobic bacteria. Typically follows evidence-based treatment approaches for complex or polymicrobial infections frequently observed in diabetic patients. Ampicillin is effective against gram-positive bacteria, while Amikacin targets gram-negative bacilli, and Metronidazole is effective against anaerobic organisms. After eight days of hospitalization, during which the patient's condition improved clinically and vital signs remained stable, we discharged them and switched their treatment from intravenous to oral medications. We are placing greater emphasis on Gram-positive cocci and anaerobes, as these were the more common causes of epididymo-orchitis. Clindamycin was administered at 300 mg orally, twice daily after food, while linezolid was administered at 600 mg orally twice daily after food, both for a duration of seven days. Considering the patient's diabetic condition and the recognized risk of gastrointestinal irritation associated with antibiotic treatment, pantoprazole 40 mg was prescribed twice daily before meals to help prevent gastric acid-related issues. Chymoral Forte, containing trypsin and chymotrypsin enzymes, was given three times a day after meals to help decrease local inflammation and swelling caused by the infection. Pain and fever were relieved with paracetamol 650 mg three times daily after meals. Given the patient's diabetes, blood sugar control was prioritized using subcutaneous human Mixtard insulin (30/70), with 20 units in the morning and 10 at night, both 30 minutes before meals. Maintaining normal glucose levels is vital for optimal immune function and reducing infection complications.

CONCLUSION

Epididymo-orchitis in older diabetic patients: we face unique challenges because of the interplay of infection and also because the immune system is compromised in diabetic patients. In this case there is a gradual onset of hemiscrotal pain, and swelling and low-grade fever are classic symptoms. Doppler and ultrasound played a

major role in the differential diagnosis of surgical emergencies such as testicular torsion. This infection pattern is more common in this age group and typically involves enteric gram-negative bacteria. To treat this kind of patient, we use broad-spectrum antibiotics, which cover Gram-positive, Gram-negative, & anaerobic organisms.

To manage infection effectively, we need not only the proper requirements of antibiotics but also strict glycemic control to prevent complications like abscess formation or testicular infarction. We can see successful clinical improvement in the patient, likely due to the combination approach of IV antibiotic therapy followed by oral agents.

This case highlights the significance of prompt and precise diagnosis along with thorough management approaches in diabetic patients with EO to prevent serious complications and ensure complete recovery. Regular follow-up is essential to detect any relapses or further urinary Symptoms.

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I confirm that I have obtained full consent from the patient to use his clinical details for educational and publication purposes. This report was prepared with the assistance of artificial intelligence for language enhancement only; all medical content and interpretation are based on the original clinical findings.

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