



Isolated Penile Gangrene with Penile Abscess with Pan Anterior Urethral Stricture – A Rare Case Report

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Abstract

Gangrene of penis is an uncommon, debilitating and fulminant condition of infective origin which is characterized by sudden scrotal edema with rapid progression leading to exposure of underlying content. It is usually localized to scrotum and penis, with an occasional extension to anterior abdominal wall⁽¹⁾. The usual organism is an anaerobic *Streptococcus synergistic* with other organisms⁽¹⁾. A 42 years old male presented with fever and pain and brownish-black discoloration of penis of 2 days and difficulty in passing urine with dysuria. Our case is a very rare as gangrene involved just penis without involvement of scrotum with pan anterior urethral stricture in a BXO patient which was managed by hospitalization, early emergency debridement of gangrenous part, drainage of abscess, supra pubic catheterization, parenteral broad spectrum antibiotics and daily wound care.

Keywords: Isolated penile gangrene, Penile abscess, Pan anterior urethral stricture, Debridement, Anaerobes.

Introduction

Isolated penile gangrene is an uncommon urological condition and has been described in association with penile trauma, in the presentation of disseminated infection, Lupus erythematosus, immunosuppression or in association with underline disease such as poorly controlled diabetes mellitus. The most commonly implicated organisms include *Staphylococcus aureus*, *Streptococci*, *Fusibacteria* and *Bacteroides*⁽²⁾. The management involves hospitalization, early debridement of devascularised tissue, broad spectrum antibiotics and skin grafting and urethoplasty. Here we present a rare case of isolated penile gangrene with penile abscess with pan anterior urethral stricture in a previously healthy 42 years old male patient.

Case Report

42 years old male patient presented with fever and pain, with brownish black discoloration for 2 days and difficulty in passing urine with dysuria. History of voiding LUTS was present. Initially started with redness and pain over the penile region, the lesion started spontaneously without any history of trauma or any focal sepsis in genito perineal area. On general physical examination, the patient was febrile. Local examination of penis revealed meatal stenosis and edema throughout its length and thick yellow pus discharge with gangrenous patch dorsally measuring about 2.5 cm x 3 cm (Fig.1). There were no other foci of infection in genito perineal area with no palpable inguinal lymph nodes. There was grade I prostratomegaly on per rectal digital examination.

Routine hematological examination revealed leukocytosis and neutrophilia. Liver function test was normal. HIV/HCV/HBsAg was non reactive. Urine routine microscopy revealed 20-25 pus cells. Random blood sugar was 110 mg/dl, blood urea and serum creatinine were within normal limits. The ultrasonography abdomen and pelvis was normal. Ultrasound scrotum revealed bilateral testis normal, no evidence of hydrocele and there was evidence of >50 cc collection at and around the root of penis extending into left upper scrotum. The doppler penis was suggestive of no breach of tunica. The penile skin vascularity was normal. The retrograde urethrogram was suggestive of meatal stenosis and pan anterior urethral narrowing (Fig. 2).

The patient was taken for emergency OT after starting the patient on broad spectrum higher antibiotics. Supra pubic catheterization with drainage of abscess with debridement of gangrene was done (Fig.3). Post operatively antibiotics were given according to the wound swab culture sensitivity. The organism isolated from wound swab was found to be Methicillin Resistant Staphylococcus Aureus. The post operative period was uneventful. The patient was continued with seven days of parental antibiotics with daily dressing of the wound. The patient was discharged on post op day 30.

Follow up after 2 months showed good healing of the wound by secondary intention without ant chordee and penile Doppler was normal. Patient is planned for cystoscopy with Johnson's or BMG urethroplasty in later stage for pan anterior urethral stricture.



Fig 01

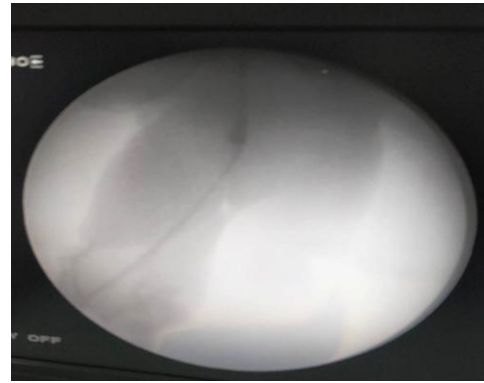


Fig 01



Fig 03

Discussion

Penile gangrene may be dry or wet type. Dry gangrene is mainly seen in systemic vasculitis, chronic renal failure, hypertension, diabetes, coronary artery disease⁽³⁾. Wet type or Fournier's gangrene is a rapid and fulminant polymicrobial infection of fascia, with secondary necrosis of subcutaneous tissue^(4,7,8). Its mortality rate is high^(6,8) which mainly affects genital region may affect perineal and perianal region, and is rarely limited to the penis⁽⁴⁻⁸⁾. It appears more frequently among male and elderly^(4,5,8). Both aerobic and anaerobic microorganisms may be implicated in the infection^(4,5,7,8).

Cultures usually reveals E.coli, Streptococcus, staphylococcus, Enterococcus, Bacteroides^(5,7). Their origin is usually disease, trauma, or iatrogenic injuries of uro genital or colo rectal regions, but many cases are idiopathic⁽⁴⁻⁸⁾.

In our case MRSA was isolated in pus culture. However we didn't recognize the source of infection by patient's history, clinical evaluation, radiological examination, and intra operative findings.

Pre disposing factors for gangrene are diabetes mellitus (most common), obesity, cancer, alcohol abuse, advanced age, over hygiene, malnutrition, heart and peripheral arterial disease, liver disease, renal failure, HIV infection and immunodeficiency⁽⁴⁻⁸⁾. Penile dry gangrene is the result of ischemia and is most commonly associated with end stage renal disease and long standing diabetes mellitus⁽⁴⁾. Penile Fournier's gangrene may originate from super infection of dry gangrene of penis⁽³⁾. It can be managed conservatively or surgically⁽⁵⁾.

Diagnosis is mainly based on history and clinical examination but the physician should be experienced to suspect this rare pathology⁽⁸⁾. The most common clinical signs and symptoms are pain, edema, necrosis, foul odor and creptations on palpations, accompanied by fever⁽⁶⁻⁸⁾. X-ray, ultrasonography, computed tomography and Magnetic resonance imaging may contribute to the immediate and accurate diagnosis⁽⁸⁾.

Treatment consist of rapid and aggressive surgical debridement of necrotic tissue to the bleeding edges under general or spinal anesthesia supra pubic catheter insertion, fluid resuscitation, broad spectrum antibiotics according to culture. Serial necrotic debridement may be needed. Adjuvant hyperbaric oxygen therapy can help in Fournier's gangrene treatment post operatively.

Various complications after surgical management of penile abscess might occur. The most frequent complications after penile abscess and its surgical management, is penile curvature which was not seen in our case. The development of penile fibrosis and curvature after penile abscess formation generally doesn't result in poor erectile function⁽²⁾. The complication that occurs after surgical drainage might require further management with penile prosthesis or surgical intervention to correct complications.

Early and aggressive intervention prevents progression of disease, can be life saving and can improve quality of life^(5,6,8)

Conclusion

Penile abscess with isolated penile gangrene is very rare and may occur without underlying cause. Early debridement and surgical drainage is key in success to avoid the complications.

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