



Autoamputation of Penis Following A Fournier's Gangrene – A Rare Occurrence

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Abstract

Fournier's gangrene is a type of polymicrobial necrotizing fasciitis involving perineal, perianal and urogenital region, especially the scrotum but rarely involves the penis. The penis is relatively spared of this life threatening condition because of its extensive vascular supply and separate fascial arrangement. We report a case of 60 year old healthy male who developed rapidly progressive necrotizing fasciitis of penis. The patient presented with sloughed off penis and was managed with repeated debridement and dressings of the wound.

Keywords: *Fournier's gangrene, autoamputation, penis*

INTRODUCTION

Fournier's gangrene is a rapidly progressive infection of genital and perineal regions with occasional cranial extension to the abdominal wall. It is characterized by synergistic necrotizing

fasciitis leading to thrombotic occlusion of small subcutaneous vessels and the development of skin gangrene.^[1] These are of two types. Type I is due to a mixture of aerobic and anaerobic organisms. Type II is due to Group A *Streptococcus*-

synergistic with a second organism (*Staphylococcus aureus*, coliforms, *Bacteroides* spp).^[2,3]

Predisposing factors include diabetes mellitus, local trauma, paraphimosis, periurethral extravasation of urine, perirectal or perianal infection and surgeries such as circumcision, herniorrhaphy or vasectomy, intracavernosal cocaine injection, homosexuals or HIV patients.^[4] Mortality rate averages approximately 20-30%.^[5]

CASE HISTORY

A 60 year old male presented with large foul smelling wound over the perineal region involving almost whole of the penis and scrotum for the last 15 days. The patient had a small untreated lesion over the glans penis for the last one year which progressed rapidly within 15 days. At presentation the patient was having intense pain and discharge from the wound, along with urinary retention for which catheterization was done.

The patient had no history of diabetes mellitus, trauma, or any sepsis in the genitoperineal area. On general examination, the patient was undernourished and febrile. On local examination, sloughed off penile tissue covered with black necrosed skin was seen just attached to its base. Only a part of corpora cavernosa and a stump of

corpora spongiosa with a small urethral opening were visible. Both testes were exposed and projecting out. The floor of the wound was showing patchy areas of slough and granulation tissue. The surrounding skin was normal. Per rectal examination was normal. Patient was able to control urine (Fig. 1).

Routine investigations revealed anemia, leucocytosis and neutrophilia. Random blood sugar, blood urea and serum creatinine were within normal limits. Culture showed growth of *E.coli* sensitive to ofloxacin, gentamycin, amikacin and piperacillin/tazobactam.

The patient was managed with parenteral antibiotics, serial debridements and EUSOL dressings. After repeated debridement and dressings the bed was finally healthy (Fig. 2). Under spinal anaesthesia both the testis were implanted in medial side of the thighs and primary closure of the skin was done with creation of perineal urethrostomy from the residual urethral stump with a normal working urinary sphincter mechanism. The urinary catheter was removed later. The patient was discharged satisfactorily after 32 days of hospital stay (Fig. 3). Written informed consent was obtained from our patient for the publication of this case report and any accompanying images.



Fig 1 : Showing Fournier's gangrene of penis and scrotum at presentation.

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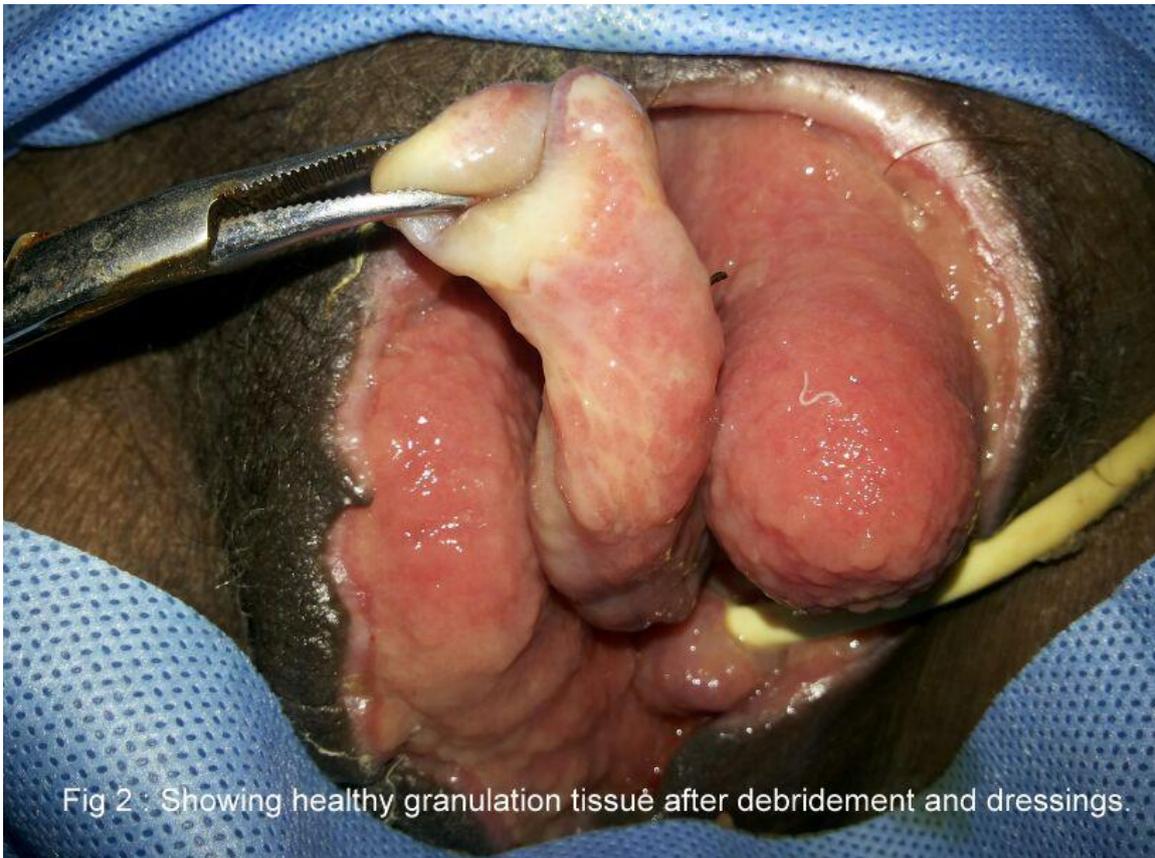


Fig 2 : Showing healthy granulation tissue after debridement and dressings.

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Fig 3 : Showing post operatively after implantation of testes in medial part of thighs and primary skin closure with perineal urethrostomy.

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DISCUSSION

Fournier's gangrene is a fulminant form of infective necrotising fasciitis of the perineal and genital regions, which commonly affects men, but can also occur in women and children.^[6] Our case was unusual as the penis was involved and at presentation it was auto amputated with only a part of corpora cavernosa and corpora spongiosa visible..

In Fournier's gangrene, penis involvement is rare and the corpora are usually spared, while the skin sloughs off. Thrombosis of the corpus spongiosum and cavernosum has, however, been reported.^[7] Only a few cases of Fournier's

gangrene of the penis have been reported.^[8,9] Testicular involvement is rare in Fournier's gangrene because of the separate blood supply to the testes by testicular arteries directly from aorta.^[10]

It is polymicrobial in nature which creates the synergy of enzyme production that promotes rapid spread of infection. The compromised immunity provides a favourable environment to initiate the infection. These organisms are usual commensals of perineal skin and genital organs, and include Clostridia, Klebsiella, Streptococci, Coliforms, Staphylococci, Bacteriodes and Corynebacteria. In Fournier's gangrene, one microorganism might

produce the enzymes necessary to cause coagulation of the nutrient vessels. Microthrombosis of these nutrient vessels reduces local blood supply. Thus, tissue oxygen tension falls. The resultant tissue hypoxia allows growth of facultative anaerobes and microaerophilic organisms. These latter microorganisms, in turn, may produce enzymes (e.g., lecithinase, collagenase, hyaluronidase etc.) which lead to digestion of fascial barriers and cause rapid extension of the infection. The most commonly isolated aerobic microorganisms are *Escherichia coli*, *Klebsiella pneumonia*, and *Staphylococcus aureus*. The most commonly isolated anaerobic microorganism is *Bacteriodes fragilis*. Both aerobes and anaerobes are present in the tissues but anaerobes are less frequent isolated because these samples are more difficult to preserve.

The spread of infection is along the facial planes, usually limited by attachment of Colles' fascia in the perineum. Infection can spread to involve the scrotum, penis and can spread up the anterior abdominal wall, up to the clavicles. The testes are usually spared. Urogenital infection travels posteriorly along the Bucks and Dartos fascia to involve the Colles fascia, but are limited from the anal margin by the attachment of the Colles fascia to the perineal body.

The hallmark of Fournier's gangrene is intense pain and tenderness in the genitalia. The clinical course usually progresses through the following phases:

1. Prodromal symptoms of fever and lethargy, which may present for two to three days.
2. Intense genital pain and tenderness that is usually associated with edema of the overlying skin.
3. Increasing genital pain and tenderness with progressive erythema of the overlying skin.
4. Dusky appearance of the overlying skin; subcutaneous crepitation.
5. Obvious gangrene of a portion of the genitalia; purulent drainage from the wounds.

Empirical broad-spectrum antibiotic therapy should be instituted as soon as possible. Classically, Triple therapy is recommended - Third generation cephalosporin or amino glycoside, plus penicillin and metronidazole. Clindamycin may also be used. Debridement of the necrotic tissue as soon as possible, is widely recommended. Debridement of deep fascia and muscle is not usually required as these areas are rarely involved similar to testes.

Only few cases of Fournier's gangrene of the penis have been reported so far. Fournier's gangrene is a life threatening condition with high mortality rates. Diagnosis should be prompt with early surgical intervention, along with antibiotics and good supportive care.

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