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Case Report

FOURNIER'S GANGRENE-Necrotizing Fasciitis of Genital & Perineal region- A curse!

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Abstract

Introduction: Fournier's gangrene (FG) is an eruptive form of necrotizing fasciitis (NF) of the perineal & genital regions. General burden in population is 1.6 cases per 1,00,000 men per year. Estimated annual number of Fournier's gangrene would be around 566 cases in men and 200 in women making a total of 750 case per year. It is a flesh-eating infection where the bacteria kill the soft tissues, often quickly including muscles, nerves and blood vessels. It presents with scrotum pain & redness in men and Labia in women, tenderness or swollen perineal region along with rapid progression to gangrene and sloughing of tissues. Along with high fever spikes and leukocytosis which deteriorate to sepsis. The basic treatment for Fournier's gangrene includes an emergency surgical debridement with higher antibiotics therapy and ICU care.

Case Report: This article is based on two cases in the last 2 years and another case from the press report, supported by literature search. The first case author managed was in Delhi in 2006 and came across another case in 2025 in Bengaluru. However, the fate one case referred, and another case reported in the print media form the clinical material and literature search worldwide adds value to the seriousness of the condition due to rapid deterioration that can baffle any general practitioner.

Outcome: Among two cases, the first one was diagnosed early and cured by antibiotic therapy with scrotal support and the second referred to & went through extensive surgical debridement in a private surgical nursing home got well. However, an elderly male diagnosed late succumbed to the condition. The fourth case from media report in a tertiary care public hospital, went through surgical debridement and wound healed over 3 weeks' time.

Keywords: Scrotum; vaginal labia; perineal region; genital regions; *clostridium; escherichia coli*; klebsiella

Abbreviations: ND: Necrotizing Fasciitis; FG: Fournier's Gangrene; FED: Flesh Eating Disease; GAS: Group A Streptococcus

Introduction

Necrotizing fasciitis, called as "flesh-eating disease," is a rare but life-threatening bacterial infection that destroys the skin, fat, and tissue covering the muscles. Necrotizing fasciitis is primarily caused by a variety of bacteria, the most common being group A *Streptococcus* (GAS). Followed by *Clostridium*, *Escherichia coli*, and Klebsiella. These bacteria can enter the body through a minor cut, surgical wound, or even an insect bite. Once the bacteria penetrate the skin, they rapidly multiply and release toxins that destroy tissues and impair blood flow. This leads to tissue necrosis and the rapid spread of the infection. Bacteria enter the bloodstream,

leading to septicemia, a potentially fatal condition characterized by widespread inflammation and organ failure [1].

Fournier's gangrene (FG) is an eruptive form of necrotizing fasciitis (NF) of the perineal & genital regions. General burden in population is 1.6 cases per 1,00,000 men per year. Given an estimated population, 1.43 billion of which 68% are in the age group of 15-64 yrs and another 7% over 64 years. The men-to-women ratio is 107.515 for the group aged 15–64 and 90.907 for those over 65. India has more males than females aged below 65 years. And men are two-thirds of women aged below 90 years. Using these numbers the author estimates male population over 15 years to be around 51.56% or 566 million and that of women around 48.44% or 550 million. Estimated annual number of Fournier's gangrene would be around 566 cases and one third of them in women making a total of 750 case per year [2].

Fournier's Gangrene is an infection that affects the genital, perineal and perianal regions just like necrotizing fasciitis in any part of the human body. It manifests in rapid, severe pain and swelling prior to the death of tissue surrounding these zones. While it can occur in both men and women, its rate is higher among males. It manifests as:

a) Inflammatory edema with extreme pain and tenderness at the inflamed area,

b) Skin that is swollen and red,

c) Create a foul-smelling discharge,

d) Systemic symptoms like Rigors, Aches and pain & fever.

A staining dark, red or purple color of skin as a sign of cell death is pathognomonic of this condition. This article is out of the seriousness of the condition, though a rare occurrence, having involved in saving 2 cases in early stage and losing 1 case over last 20 years of primary health practice, complimented by a case report in the print media and literature search.

Case Reports

Case 1

Delhi Case 2006: A male aged 38 years approached me in Diabetic Foundation Clinic, Vasant Kunj New Delhi, with complaint of severe scrotal pain for 2 days. On examination the scrotum was swollen, tend and skin reddish. He was given scrotal support and broad-spectrum antibiotics and followed up daily (to ensure scrotal support). He was relieved of pain very next day and the infection declined over 5 days and in another 3 days he was leading a normal life.

Case 2

An old man, around 75 years came to Private Medical College hospital complaining of pain in his groin area and feeling feverish. On Clinical examination the resident suspected it to be a serious case of Fournier's gangrene though he was seeing it for the first time. The surgeon on duty worked fast, removing as much of the infected tissue as he could, including the man's entire penis. But over the next few days, the infection spread faster than they could control it. The resident had to tell the patient that he had only a couple of days left to live at best. As the young resident was talking to him, he couldn't help but cry. But the man, in a moment of calm, comforted him said "Thank you, doctor, for your kindness and courage. I'm glad this will be over soon. This case unfolds the seriousness of this condition (Figure 1).

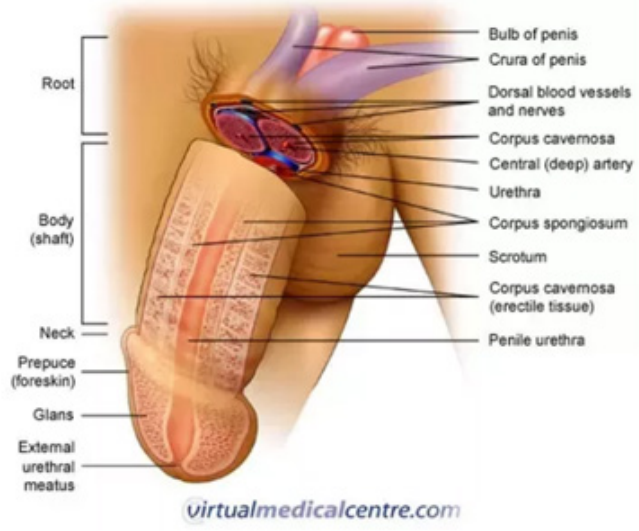

Figure 1: Male with Fournier's gangrene.

Case 3

A 65-year-old male diabetic reported to a casualty with the complaint of a sporadic high fever that got worse along with sporadic scrotal soreness and experiencing acute scrotal swelling for 5 days. His initial physical examination revealed no crepitus or necrotic areas. An X-ray of the kidney, ureter, and bladder (KUB) revealed gas accumulation and soft tissue oedema in the pelvic region. Pharmacological treatment included fast-acting insulin to control blood sugar levels, and empirical antibiotic injections. A tunnel was discovered in the left inguinal area, and debridement was carried out right away, beginning with an incision in the necrotic area. Daily wound care was done routinely (Figure 2). Overall, the patient was doing well after a week!

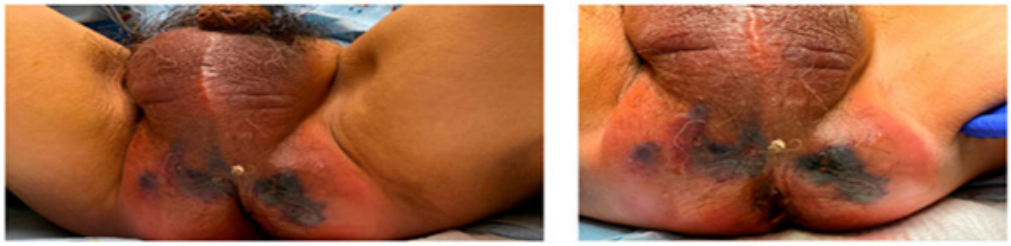

Figure 2: A male patient with scrotal& Buttock soreness.

Case 4

A 35-year-old female with a past medical history of hypertension, insulin-dependent type II DM, and obesity presented to a Government Medical College hospital in Hyderabad on 6 May 2025, complaining of a vulvar lump associated with fever. Taking a sample of her blood for culture and sensitivity test she was given empiric antibiotic treatment including ceftriaxone, vancomycin, and metronidazole for vulvar abscess. After antibiotic treatment for seven days, the patient returned due to worsening symptoms of vulvar pain, fever, and chills. Physical examination revealed enlarged bilateral vulvar lumps with erythema and induration. The patient was admitted and had an incision and drainage of the vulvar abscess and marsupialization the following morning. On postoperative day 1, the patient remained febrile and tachycardic despite antibiotics and Analgen administration. The patient was complaining of worsening pain and fullness around her wound site. Her postoperative white blood cell (WBC) count was 40 x 109/L, glucose remained at 300-400 mg/dL, and HbA1c was 9.0. Examination revealed new firm nodules on bilateral prebilabial areas with cellulitis extending to her suprapubic area and groin (Figure 3).

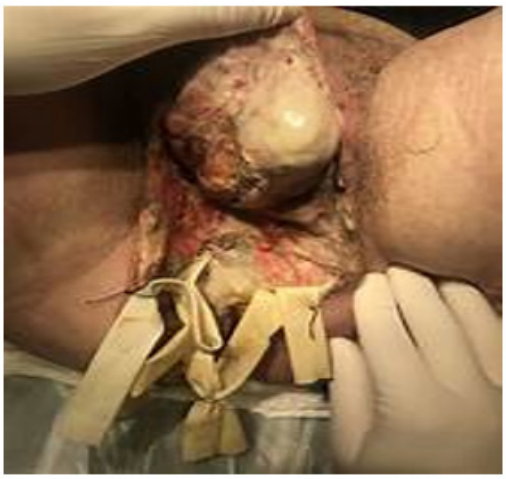

Figure 3: Debridement of Fournier's gangrene in a Female patient.

Her abdomen was distended and tender to palpation in the lower quadrants with rebound tenderness. An emergency abdominopelvic computed tomography (CT) demonstrated extensive subcutaneous emphysema of the perineum extending into the labia and groin bilaterally, as well as lower anterior abdominal wall highly suspicious for Fournier's gangrene. The patient was taken to the operating room immediately for a wide excisional debridement of peri labial abscess and necrotizing fasciitis. Intra-operatively, large amounts of purulent fluid and extensive necrotic tissue were found in the bilateral peri labial, perineum, and lower abdominal wall region. A large amount of skin, subcutaneous tissue, and fascia had to be excised to get rid of widespread necrotic tissue leaving a 32 x19 x 7 cm full-thickness wound with exposed muscle and red viable tissue in the pubis, lower abdomen, and left groin. Her antibiotic regimen was tailored to vancomycin and ampicillin once the culture revealed Enterococcus faecalis. After a week of intense wound care, intravenous antibiotic therapy, and glucose management, she was discharged on oral antibiotic therapy and a close follow-up plan in the outpatient clinic. The wound took about 3 weeks to heal completely [3].

Discussion

Fournier's Gangrene is an infection that affects the genital, perineal and perianal regions just like necrotizing fasciitis in any part of the human body. It manifests in rapid, severe pain and swelling prior to the death of tissue surrounding these zones. Since 1950, fewer than 2,000 cases have been reported in medical studies. While it can occur in both men and women, its rate is higher among males. Based on evolution of the infection, Fournier's Gangrene is described as:

a) Stage 1: Early Stage - Symptoms are often mild and limited to increasing pain, swelling, and erythema.

b) Progressive Phase: A localized red ulcer becomes a dusky fiery color and enlarges; the pain grows worse; there is developing systemic toxicity with gangrenous dermal lesions.

c) Final Stage: Infection has disseminated, causing severe necrosis with inoculation leading to systemic symptoms like sepsis and organ failure.

The major cause is polymicrobial, or bacterial infections, both aerobic organisms as well anaerobic strains work collectively to propagate the infection. Common Bacterial Causes include *Escherichia coli* (*E. coli*), *Streptococcus*, *Staphylococcus*, *Clostridium Bacteroides*. Main risk factors include Diabetes mellitus, Alcoholism, Poor hygiene Local trauma or injury Chronic steroid use, immunosuppression (due to chemo/radio therapy). These infections Most commonly reside in the urinary tract, and pain during sex. Females can develop Fournier's Gangrene from vulvovaginal or Bartholin gland infections. In men, it frequently develops after urinary tract infections or perianal infections or due to trauma.

Diagnosis

The diagnosis of Fournier's Gangrene is usually made based on clinical assessment supported by diagnostic imaging.

Clinical Examination

The key is in a complete patient history and physical examination, based on the classic symptoms and rapid deterioration of disease.

Diagnostic Imaging

CT Abdomen Pelvis or MRI is important for the diagnosis of Fournier's Gangrene, for determining the size of an infection, the presence of gas producing organisms and to define underlying tissues that are involved.

Laboratory Tests

Basic investigations done include: i) CBC with Differential count, ii) C-reactive protein (CRP) &Erythrocyte Sedimentation Rate (ESR) levels iii) Blood cultures & antibiotic sensitivity tests and Serum electrolytes and renal function tests to detect type of infection and response to therapy in patients.

Management of Fournier Gangrene

Being a life-threatening condition, prompt hospitalization and treatment with aggressive antibiotics are required to prevent dissemination of the disease while treating systemic effects. i) As any infection and necrosis surgical decompression is very important, treatment for Fournier's gangrene may need several surgeries to completely exercise the affected tissue. ii) Antibiotic Therapy- initiating with broad-spectrum antibiotic therapy which can be changed to patient-specific factors, based on the culture sensitivity test which may take 2-3 days. iii) Supportive Care- includes IV fluids and electrolyte management and appropriate nutrition. iv) In serious cases, sepsis can lead to organ failure and need treatment in the ICU (intensive care unit) and support for failing organs may be needed like: a) HBOT (Hyperbaric Oxygen Therapy) adjunct treatment with hyperbaric oxygenation to raise blood oxygen levels, and prevent the spread of anaerobic bacteria and heal wounds [4].

Prognosis

The outcome of Fournier's Gangrene relies on how rapidly it happens to be diagnosed and managed. Early intervention can vastly improve these outcomes. Nevertheless, the mortality is high as result of rapid disease progression and possible systemic complications. One of the risk factors linked to mortality in Fournier Gangrene (FG) is the elderly. When this risk is present and diagnosed too late, patient care becomes difficult. Our first case report discusses the treatment of such an old patient and its consequences as fatality [5,6].

Conclusion

Fournier's gangrene is a rare, rapidly progressive, necrotizing fasciitis of the external genitalia and perineum. It is predominantly a disease of males but very rarely can occur in females and is a surgical emergency. An early diagnosis including evaluation of predisposing & etiological factors, metabolic and physiological parameters with prompt resuscitation, aggressive surgical debridement, broad-spectrum antibiotic coverage, and continuous monitoring of all the parameters is essential for a good outcome. It manifests rapidly, with severe pain and swelling prior to the death of tissue

surrounding these zones. Since 1950, fewer than 2,000 cases have been reported in medical studies. Common Bacterial Causes include *Escherichia coli* (*E. coli*), *Streptococcus*, *Staphylococcus*, *Clostridium Bacteroides*. Main risk factors are Diabetes mellitus, Obesity, Alcoholism, Poor hygiene Local trauma or injury Chronic steroid use, immunosuppression. The diagnosis of Fournier's Gangrene is usually made based on clinical assessment supported by diagnostic imaging. Initiating with broad-spectrum antibiotic therapy which can be changed to patient-specific factors, based on the culture sensitivity test when report is available. Supportive Care- includes IV fluids and electrolyte management and appropriate nutrition Systemic septicemia can lead to organ failure & need treatment in the ICU and support for failing organs.

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