



## EXTENSIVE FOURNIER'S GANGRENE MANAGED AGGRESSIVELY WITHOUT ANY FLAP COVER - A CASE REPORT

### General Surgery

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### ABSTRACT

Fournier's gangrene (FG) is a rare disease and one among many surgical emergencies. FG is a rapid progressive infection leading to necrosis of the subcutaneous tissue. It requires aggressive management for a better outcome. Here we present a 40 year old male, non diabetic brought to casualty with extensive gangrene and in shock at presentation. He was managed aggressively and followed up by secondary closure of raw area without flap cover with a good outcome.

### KEYWORDS

#### INTRODUCTION

Fournier's gangrene (FG) is a rare, life threatening surgical crisis which requires immediate attention, else can progress to systemic toxicity. It was first depicted by Jean Alfred Fournier, a dermatologist and venereologist. He had first depicted this condition in 5 youthful male patients, who had suffered from a rapid and progressive infection of the subcutaneous tissue of scrotum and penis with no proper etiological factor. It is fascinating to take note of that Bauriène in 1764 had depicted such an instance of scrotal gangrene because of awful injury from the horn of a bull, which was treated by various sittings of careful debridement. Over some undefined time frame, the meaning of FG was widened to have all the necrotizing diseases of the genitalia. Its aetiology is poorly described, and often triggered by a minor inciting event, such as an insect bite or minor trauma. Early diagnosis combined with aggressive surgical debridement and reconstructive techniques are key factors in survival and in achieving a better outcome.

#### CASE PRESENTATION

40 year old male patient presented in casualty with complaints of swelling, pain and foul smelling discharge from the scrotum and right inguinal region of 8 days duration. Patient was apparently asymptomatic 8 days back following which he developed a swelling over the scrotal region which was sudden in onset. It rapidly progressed and ascended towards the right inguinal and perineal region. The pain was throbbing and excruciating in nature, foul smelling discharge from the swelling for three days. He also had episodes of fever on and off for one week duration. There was no history of trauma. He is not a known diabetic. Patient consumes alcohol and is a smoker for the past 20 years. On appearance patient was poorly nourished and moderately built. Patient was dehydrated. On evaluation he had pallor and with no icterus and lymphadenopathy. His pulse was 118/min, regular and good volume. His blood pressure was 100/70mmHg. He was febrile with a temperature 103°F. Systemic examination revealed no abnormalities. Local examination revealed enlarged, edematous and tender scrotum with ulceration and gangrenous patches extending into the perianal region and right inguinal region. Frank, foul smelling and purulent pus discharge was seen. A diagnosis of FG was made. The patient was resuscitated with IV fluids and investigated. Broad-spectrum antibiotics in form of cefoperazone and sulbactam along with metronidazole were started. Emergency surgical debridement was planned. Blood haemogram revealed hemoglobin to be 8.8 gm%, white cell count—20,000/cmm with leucocytosis. Biochemical parameters were essentially normal (blood urea: 21 mg%, serum creatinine: 1.1 mg%, random blood sugar: 88 mg%, and LFT: within normal range). He was taken up for emergency debridement. All the necrosed tissues were excised. Pus was sent for culture and sensitivity. Post operatively had fall in blood pressure and was on inotropic supports for 3 days. Culture showed heavy growth of *S.aureus* and *proteus mirabilis*. They were sensitive to

piperacillin tazobactam. He was given a protein rich diet. 4 units of blood transfused, one every week and 8 units of fresh frozen plasma twice a week. Regular dressing with saline and povidone iodine was done. On post operative day 30, the huge defect was reconstructed with secondary suturing without any flap cover. Patient was discharged on post operative day 40. Review after 2 weeks and 6 weeks revealed patient to be healthy.

#### DISCUSSION

FG isn't an infection constrained to youthful guys as initially suspected by Fournier. The past reports recommended the most elevated frequency of male patients in the sixth decade of life.[1] Indeed, even with the lower rate rates, the ailment was found in females and in all age gatherings of adolescence including infant and earliest stages of life.

Revealed mortality differs from 0–25%, however it is firmly identified with existing co-morbidities including diabetes, neoplasms, incessant vascular disease, renal dysfunction or excessive alcohol consumption.[2] The most widely recognized source is polymicrobial, with Group A streptococcus being the most well-known organism to be isolated. The etiology, nonetheless, is ineffectively comprehended.

FG is never again viewed as idiopathic since the pathologic highlights of the ailment are all around characterized and entryways of section for causative microorganisms are notable. There are reported etiologic causes such as colorectal carcinoma, sigmoid carcinoma, perianal / perirectal abscess, ruptured appendicitis, sigmoid diverticulitis, Bartholin gland abscess, renal abscess, urethral stone and urethral stricture.[3]

There are 3 kinds of necrotizing subcutaneous tissue infections. Type I is polymicrobial in starting point, where a mix of gram-positive and gram-negative microscopic organisms alongside anaerobes are found in culture. Type-II disease is monomicrobial in nature, being typically brought about by Group A streptococcus however might be related with *Staphylococcus aureus*[4]. Type II is less regular when contrasted with Type I and as a rule seen in sound, immunocompetent patients. There is additionally a Type III contamination brought about by *Vibrio vulnificus*. Type III is very rare and seldom seen in practice.

Management of FG is a multidisciplinary approach. Initial resuscitation with fluid therapy and restoration of cardiopulmonary function to normal in patients presenting with septic shock is very important at the time of presentation. Timely aggressive debridement of necrosed tissue along with broad-spectrum antibiotic coverage is the main stay in managing FG. Antibiotics can be changed after obtaining the culture report. The removal of all the devitalized tissue is important to stop the progress of the infection and simultaneous elimination of systemic effects of toxins and bacteria.[5] Multiple sittings of surgical

debridement may be required to achieve adequate local control of infection. Local wound care after surgical debridement is very important. Wet to dry dressings, dressings with vacuum-assisted closure devices (VAC dressing), and application of various topical agents have been advocated. We prefer daily wet dressing and topical application of povidone iodine. VAC dressings have shown enhanced granulation tissue and reduction in wound surface area compared to wet to dry dressing.[6] With proper surgical debridement, local wound care, and antibiotic therapy, healthy granulation tissue appears, and most of the time primary wound closure can be done, as seen in both of our cases. However in significant tissue loss, any of the reconstructive procedure including various flap covers may be considered depending on the case. A significant tissue loss in genitalia and perineum causing a large defect can lead to high morbidity, which can be salvaged by reconstructive surgery with adequate tissue coverage[7]

### CONCLUSION

FG still has a high death rate in spite of aggressive debridements, present day antimicrobial medications. Quick and right analysis of FG can keep away from improper treatment and even death of the patient. The healthcare experts ought to know that any injury in the perineal region could prompt FG

FIGURE 1



FIGURE 2



FIGURE 3



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