

# Fournier's Gangrene Post Herbal Treatment Of Haemorrhoids In A Tertiary Hospital In South Eastern Nigeria

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## Abstract

Fournier's gangrene, first documented by Jean Alfred Fournier in 1883 is a rare form of necrotizing fasciitis of the perianal, perineal, genital and lower abdominal region.

The systemic manifestations are far greater than the regional manifestations. It is common in males 50 years and above but occurs in children and females.

The incidence is lower in females but mortality is higher due to the greater ease and susceptibility to peritonitis and retro peritonitis in the female patient.

Fournier's gangrene (FG) is caused by bacterial infections often Polymicrobial involving gram negative, gram positive and anaerobic organisms and occasionally atypical organisms spreading rapidly through the soft tissues of the perineal, perianal and genital regions.

The index case was a 71 year old man who had visited a herbal practitioner for the treatment of his haemorrhoids.

Fournier's gangrene had set in prompting transfer to a private medical facility from where he was referred to the teaching hospital.

On evaluation, he was not diabetic and was HIV negative. There was no history of smoking and no history of chronic alcohol use and no history suggesting use of immune suppressive therapy.

A digital rectal examination done was very tender with surrounding perianal ulcers.

He was very febrile on admission. He was anaemic with PCV of 18 and was also hypotensive.

Laboratory work up showed normal serum sodium, potassium, bicarbonate with slightly evaluated urea and creatinine despite being on continous urinary drainage.

Wound swab Microscopy, culture and sensitivity yielded E-coil organisms while catheter specimen of urine culture yielded Klebsiella organisms.

He was managed on broad spectrum antibiotics including metronidazole for anaerobes.

He had transfusion of 2 units of blood and surgical debridement.

This case highlights the peculiar circumstances that patients subject themselves in order to reduce cost from orthodox medical treatment often seen in the lower socio-economic class.

## Keywords

Fournier's gangrene, Necrotizing fasciitis, perianal, perineal, genital, Sepsis and South Eastern Nigeria.

## I. Introduction

Fournier's gangrene (FG) is a life threatening, rapidly progressing necrotizing fasciitis of the perianal, perineal and the genital region often with severe systemic manifestations. It affects the deep and superficial tissues and spreads along fascial planes. Often the lower abdomen is involved.

Complications include

- Sepsis
- Multiple organ dysfunction and failure
- Death

The following factors increase the risk of developing FG

- Diabetes Mellitus
- Alcoholism
- Malnutrition
- Smoking
- Malignancies
- Immunosuppressive therapy
- Obesity
- Kidney failure
- Liver failure

Incidence is lower in females due to better drainage of the perineum as a result of vaginal secretions but mortality is higher in the females due to greater ease and susceptibility to peritonitis and retro peritonitis.

Fournier's gangrene severity index (FGSI) is a scoring system used in predicting mortality in necrotizing fasciitis of the perianal, perineal and genital regions with a score equal or greater than 9 suggesting 75% probability of death.

The FGSI calculates 9 physiological parameters or variables on admission which include

- Temperature
- Heart rate
- Respiratory rate
- Serum sodium
- Serum potassium
- Serum bicarbonate
- Haematocrit
- Leucocyte count
- Serum creatinine

Variants of FGSI include

1. FGSI more than 9 linked with mortality (75% risk)
2. UFGSI (ULUDAG) – An improved score by adding age and disease extent with score more than 8 indicating higher mortality.
3. SFGSI (Simplified) – A simplified version focusing on creatinine, potassium and haematocrit.

Management protocols include

- Antimicrobial coverage
- Surgical debridement
- Secondary skin closure
- Grafts
- Flaps

Adjuvant treatments after surgical debridement include

- Vacuum assisted closure
- Hyperbaric oxygen therapy which
  - a. Alleviates tissue hypoxia
  - b. Reduces pathological inflammation

- c. Has bacteriocidal effects
- d. Mitigates ischaemia- reperfusion injury

## **II. Case Presentation**

A 71 year old man referred from a private general practitioner with a diagnosis of Fournier's gangrene (FG) contracted while on herbal treatment of haemorrhoids.

On review, he was not diabetic. He was HIV negative. There was no history of smoking and history of alcohol intake. Also there was no history of being on a immunosuppressive therapy.

On examination he was very febrile, pale, slightly hypotensive. He had a tachycardia of 105 beats per minute, respiratory rate of 30 cycles per minute with visible recessions.

Perianal, perineal, and scotal lesions were present with dark patches on the dorsum of the penis with extension to the lower abdominal wall.

On further evaluation, PCV was 18, serum sodium, potassium and bicarbonate were normal but urea and creatinine were slightly elevated despite being on continous urinary drainage.

Leucocytosis was present. Wound swab microscopy culture and sensitivity (MCS) yielded a significant growth of E-coil organisms while catheter specimen of urine MCS yielded klebsiella organisms.

He had 2 units of blood, broad spectrum antibiotics including metronidazole, intravenous fluids and surgical debridement after stabilization.

## **III. Discussion**

Fournier's gangrene (FG) is a severe life threatening, rapidly progressing necrotizing fasciitis of the perianal, perineal and genital regions often extending to the lower abdominal wall with severe systemic manifestations.

In a study by El Bashir Benjelloum et al on Fournier's gangrene and their experience with 50 patients, found that advanced age, renal failure on admission, extension of infection to the abdominal wall, occurrence of septic shock and need for post operative mechanical ventilation are the main prognostic factors of mortality. E-coli was the most common organism isolated.

In our index case, the patient was aged 71 years. He had slightly impaired renal function on admission without overt failure. He had extension to the lower abdominal wall and E-coil organisms were also isolated.

Ugwumba et al on their work on analysis of management and outcome of FG in South Eastern Nigeria found a low mortality rate which was collaborated by an earlier work suggesting that FG runs a less aggressive course in this region than other climes.

They found a significant association with diabetes mellitus.

A work by E. A Obiese et al on prognostic factors and outcome of treatment in patients with FG, they concluded that complicated diabetes mellitus and poor Fournier's gangrene severity index are major predictors of mortality.

Nnabugwu et al on their work on FG: a retrospective review of management outcomes and seasonal variation on clinical presentation found a seasonal pattern of occurrence of FG.

They concluded that it is observed to present mostly during the hot and dry months of the 8 years under review.

Our index patient presented during the hot season of the year.

In another work by Eshiobo Irekpita et al on their experience with FG at Irrua Teaching Hospital, Nigeria concluded that

- FG presents with Aetiological factors
- Diabetes Mellitus and HIV worsen prognosis
- Perianal sepsis was the most common predisposing factor

In our index case, perianal application of Herbal materials was the triggering aetiological factor which led to perianal sepsis ultimately leading to extension to the perineal, genital and the lower abdominal regions.

## **IV. Conclusion**

FG is still a severe life threatening disease with a high mortality rate. Systemic manifestations far outweigh regional manifestations.

Early diagnosis and institution of aggressive and comprehensive management protocols will go a long way in mitigating the course of the disease, thereby reducing morbidity and mortality.

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