

## Case Report

# A rare case of colonic perforation presenting as Fournier's gangrene

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### ABSTRACT

A 48-year-old obese gentleman with mild pain over abdomen for 10 days followed by pain and swelling in the right side of scrotum with skin discolouration for 2 days. Clinically necrotic patch with pus discharge was noted on the right side of scrotum. Extensive debridement over scrotum was done following which inflamed omentum and fecal contents were noticed from the inguinal canal. Patient underwent laparotomy and an ascending colonic perforation was found. A loop colostomy with partial omentectomy and inguinal hernia repair along with serial debridement of scrotal wound was done. Although uncommon, gastrointestinal perforations should be considered as a potential etiology in Fournier's gangrene.

**Keywords:** Fournier gangrene, Inguinal hernia, Perforation, Peritonitis

## INTRODUCTION

Fournier's Gangrene (FG) is an uncommon disease characterised by necrotising fasciitis of the perineal, genital and perianal regions.<sup>1</sup> There is thrombosis of the subcutaneous vessels which leads to gangrene of the overlying skin.<sup>2</sup> Initially described as an abrupt onset of disease without a known cause occurring in young males, nowadays the disease is no longer restricted to men and also affects the paediatric population.<sup>1</sup> In the US the incidence is 1.6/100000 males representing less than 0.02% of hospital admissions.<sup>3</sup> The disease predominantly affects males aged from 50 to 79 years.<sup>3</sup> In majority of cases the source of infection is from perineal and genital skin infections. The common causes are listed in (Table 1).<sup>4</sup> Despite the various advancements in management, the mortality rate is very high at 20-40%.<sup>5</sup> Although few cases of FG developing through local spread of infection after rectum and sigmoid perforation have been reported in literature, to the best of our knowledge there has been only 1 case of FG developing from intestinal perforation with an inguinal hernia.<sup>6-9</sup> In

this article we describe a case of colonic perforation peritonitis presenting with FG.

## CASE REPORT

A 48-year-old male presented with dull aching diffused abdominal pain for 10 days. The patient had initially taken analgesics for the same and noticed slight relief from the pain. Now the patient presented to us with pain in the right side of scrotum along with swelling and blackish discolouration of the skin over the past 2 days. There was no history of sudden abdominal distension, groin swelling, trauma, interventions or any previous bladder or bowel complaints and the patient was accepting oral feeds. Past history was unremarkable and no co-morbidities were present. On examination the patient was comfortable, hydration adequate, blood pressure of 128/78mm Hg and pulse rate of 94/min. The patient was obese with a Body Mass Index (BMI) of 32.6. Abdominal examination revealed a soft, distended abdomen with no tenderness, guarding or rigidity noted. Examination of scrotum showed presence of necrotic

patch over the right side and on the shaft of penis along with pus discharge (Figure 1).

**Table 1: Common causes of Fournier’s gangrene.**

Urogenital
Urethral stricture
Indwelling catheter
Traumatic catheterisation
Urethral calculi
Prostatic biopsy
Vasectomy
Insertion of penile prosthesis
TVT procedure
Hydrocele aspiration
Delayed rupture of ileal neobladder
Intracavernosal cocaine injection
Genital piercing
Perineal trauma
Anorectal
Perianal abscess
Rectal biopsy
Anal dilatation
Haemorrhoidectomy
Rectosigmoid malignancy
Appendicitis
Diverticulitis
Gynaecological
Infected Bartholin’s gland
Septic abortion
Episiotomy wound
Coital injury
Genital mutilation



**Figure 1: Fournier’s gangrene involving the scrotum and shaft of penis.**

A complete blood count was done showing leucocytosis of 14000 cells/mm<sup>3</sup> with elevated polymorphs. Renal and liver function tests and blood sugar tests were normal. A

Chest X-ray taken in erect revealed mild bilateral pleural effusion and no free gas under diaphragm (Figure 2).



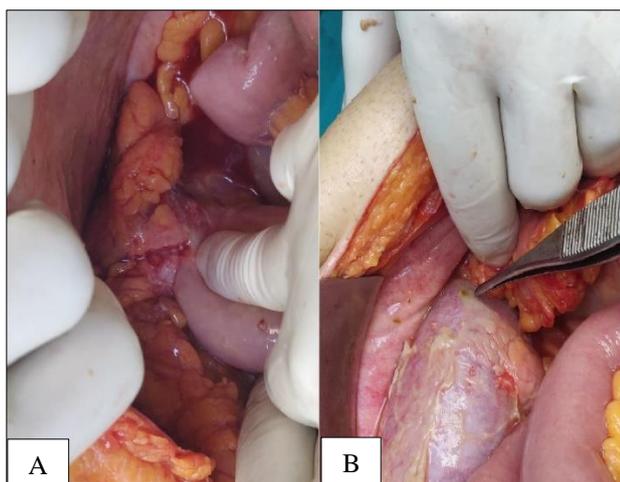
**Figure 2: Chest X-ray posteroanterior erect view showing mild bilateral pleural effusion.**

Resuscitation with crystalloids, intravenous antibiotics was done and the patient underwent extensive debridement of gangrenous tissues under anaesthesia following which inflamed omentum and fecal contents were noticed coming out from the inguinal canal (Figure 3).



**Figure 3: Inflamed omentum and fecal contents coming from inguinal canal.**

Intestinal perforation peritonitis in an asymptomatic right inguinal hernia was suspected despite the absence of symptoms and signs of peritonitis on examination and absence of pneumoperitoneum on chest X-ray. A midline laparotomy was made and presence of a sealed ascending colonic perforation of size 0.5x0.5cm wrapped over by the greater omentum surrounded by pus flakes was seen (Figure 4).



**Figure 4: (A) Lump formed by greater omentum wrapped around the ascending colon, (B) Perforation of size 0.5x0.5cm in the ascending colon surrounded by pus flakes.**



**Figure 5: Healthy granulation tissue over the right testis and shaft of penis.**

A thorough peritoneal lavage with 5 litres of normal saline followed by partial omentectomy of the sloughed off omentum and a loop colostomy from the perforated site and hernia repair was performed. Rectus sheath was closed with polypropylene interrupted sutures and delayed closure of the skin was done. Colostomy became functional on post-operative day 1 and abdominal drain was removed on post-operative day 2. Serial debridement and dressing of the scrotal wound were done till the development of healthy granulation tissue (Figure 5).

## DISCUSSION

In 1883, Jean Alfred Fournier, a French dermatologist specialising in venerology described necrotising fasciitis

of the genital and perineal area which was later termed as Fournier's Gangrene. Baurienne described the scrotal gangrene and its surgical management for the first time in 1764.<sup>10,11</sup> The common causes include anorectal infections, urogenital infections and traumatic injuries. FG is frequently associated with other comorbid systemic disorders, the most common being diabetes mellitus and alcoholism. Diabetes mellitus is present in 20-70% patients of FG and chronic alcoholism in 25-50%.<sup>4</sup> Other risk factors include old age, immunosuppression, chemotherapy, prolonged steroids usage and HIV.<sup>1,2,4</sup> FG represents a polymicrobial infection representing both aerobes and less frequently anaerobes. The most commonly isolated organisms are the Enterobacteriaceae particularly *Escherichia coli* followed by *Bacteroides* and *Streptococcal* species.<sup>1,2,4</sup> The clinical presentation varies from pain and swelling in the perineal region to systemic signs of septicaemia and shock. Aggressive resuscitation and intravenous antibiotic therapy with extensive debridement of all the devitalised tissue is the treatment.

In our patient we have observed a colonic perforation presenting with FG. The patient had complaints of abdominal pain for 10 days which was not settled completely by analgesics. The patient had come to hospital now with swelling and pus discharge in the scrotum. On examination the signs of peritonitis were not present, probably masked by the obese condition of the patient. Also the patient does not give history of any groin swelling suggestive of an inguinal hernia. On chest X-ray taken in erect posture there was no evidence of pneumoperitoneum, as the perforation probably had occurred 10 days ago and sealed off by the omentum in due course. The sensitivity of upright posteroanterior chest radiograph is only 80%. An upright lateral chest X-ray is more accurate with a sensitivity of 98%.<sup>12</sup> Due to obesity in this patient, both the signs and symptoms of perforation peritonitis had been masked and detected only after occurrence of fecal contents and inflamed omentum through the inguinal canal. Hence, we conclude that although extremely rare, gastrointestinal perforations should be considered as a possible etiology in a case of Fournier's Gangrene.

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