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RARE MANIFESTATION OF FOURNIER'S GANGRENE IN A YOUNG FEMALE: CASE REPORT

SAKSHI KUMARI
Final Year MBBS Student, School of Medical Sciences and Research, Sharda University.
ORCID: 0009-0004-3979-0713

Dr. SHILPI BHATTACHARYA*
Assistant Professor, Department of Surgery, School of Medical Sciences and Research, Sharda University.
*Corresponding Author ORCID: 0009-0000-4143-3126

PURSHOTAM DASS GUPTA
Professor, Department of Surgery, School of Medical Sciences and Research, Sharda University.
ORCID: 0000-0002-9356-0044

Dr. LAV MODH
3rd Year Resident, Department of Surgery, School of Medical Sciences and Research, Sharda University.
ORCID: 0009-0000-0588-5109

Dr. NAISARGI DAHIMA
1st Year Resident, Department of Surgery, School of Medical Sciences and Research, Sharda University.

Dr. ADITI BHATNAGAR
Professor, Department of Anatomy, School of Medical Sciences and Research, Sharda University.
ORCID: 0000-0002-5623-8646

Dr. NIRUPMA GUPTA
Dean and Professor, Department of Anatomy, School of Medical Sciences and Research, Sharda University.

Abstract

Fournier's gangrene is a severe, rapidly progressing necrotizing infection that primarily affects the perineal and genital regions in males, although infrequent cases in females have been documented. Such presentations are often underrecognized, contributing to diagnostic delays. Predisposing conditions include chronic illnesses, diabetes mellitus, and traumatic injury. We present the case of a 19-year-old female who developed Fournier's gangrene following a bilateral perianal abscess that required extensive surgical intervention, including debridement, fecal diversion colostomy, and subsequent skin grafting. Microbiological analysis revealed a polymicrobial infection. Prompt recognition and early surgical management led to recovery with minimal morbidity. This case underscores the need for high clinical vigilance and timely, aggressive management in female patients presenting with necrotizing infections of the perineum.

Keywords: Fournier's Gangrene, Necrotizing Fasciitis, Perianal Abscess.

INTRODUCTION

According to the National Organization for Rare Disorders, Fournier's gangrene is an aggressive necrotizing infection that primarily affects the perineal and genital regions in males.

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Although the disease predominantly affects men, it can occur albeit rarely in females, with an incidence rate of approximately 0.25 per 100,000 individuals [1]. Necrotizing fasciitis arises from a synergistic polymicrobial infection that extends through the fascial and subcutaneous layers, typically caused by a mixture of aerobic and anaerobic bacteria [2].

The condition is most frequently associated with *Escherichia coli*, *Pseudomonas*, and several anaerobic species, which are among the most commonly isolated pathogens [3]. Contributing factors include trauma, diabetes, alcoholism, intravenous drug use, chronic medical conditions, and recent surgical procedures (3).

In many instances, trauma, postoperative complications, perianal infections, or urinary tract infections—such as perianal abscesses, serve as initiating sources of infection [4].

Successful management requires urgent medical and surgical intervention. This includes extensive debridement of necrotic tissue, broad-spectrum antimicrobial therapy, and supportive care aimed at stabilizing underlying comorbidities.

Despite such measures, mortality remains high, especially among patients with delayed diagnosis or significant comorbid conditions [5]. Even with ongoing advances in diagnostic and therapeutic techniques, the mortality rate continues to range between 20% and 43% [6].

This case was reported due to its presentation in a young, unmarried female without underlying illness—an uncommon demographic for this condition.

CASE REPORT

A nineteen-year-old unmarried, non-diabetic female presented with bilateral perianal abscess and a history of painful defecation, streaky blood in stool, and white vaginal discharge. Her symptoms had progressively worsened. Clinical examination revealed induration and tenderness around the perianal region, suggestive of a perianal abscess. Emergency incision and drainage were performed.

Postoperatively, the patient developed Fournier's gangrene (**Figure 1**), requiring repeat debridement due to extensive necrosis involving the perianal region (**Figure 2**), labia majora superiorly, and gluteal region laterally up to the anal orifice. Thick purulent vaginal discharge was observed, and unhealthy slough was noted (**Figure 3**). Diversion colostomy was performed.

Both vaginal discharge and debrided tissue were sent for culture analysis. The vaginal swab culture revealed *Klebsiella oxytoca*, while tissue culture yielded *Enterococcus* species and *Citrobacter koseri*.

Regular dressing was undertaken, and healthy granulation tissue developed over time (**Figure 4**). After negative culture reports, she underwent skin grafting on postoperative day 18 (**Figure 5**). A gynecological consultation was obtained, and recommendations were followed. The perianal wound healed within four weeks with regular dressing (**Figure 6**). The patient was discharged and underwent reversal of stoma after three months (**Figure 7**).

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Figure 1: necrotic patch with slough in perianal region

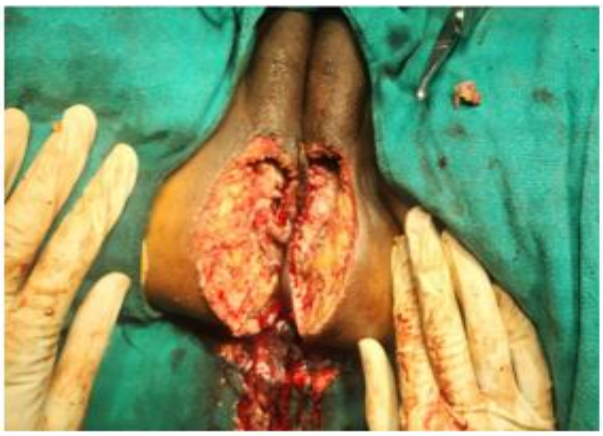

Figure 2: showing intraoperative pictures after debridement of gangrenous and necrotic tissue

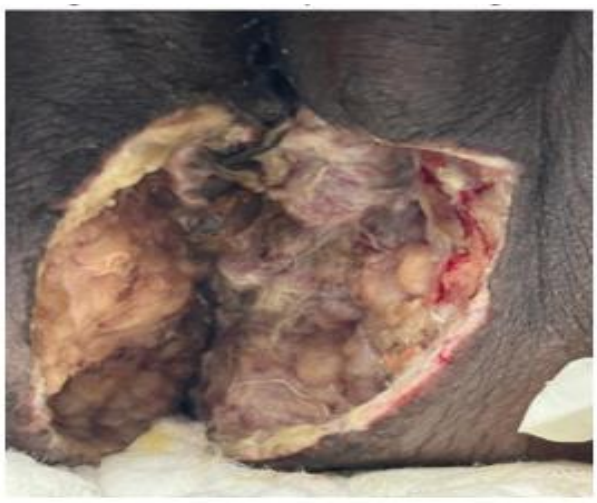

Figure 3: Postoperative day 5 – minimal slough with unhealthy surrounding tissue

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Figure 4: Post operative day 9 – healthy granulation tissue

Figure 5: Intraoperative image showing the graft on the perianal wound done on postoperative day 18

Figure 6: Postoperative day 28 – graft uptake

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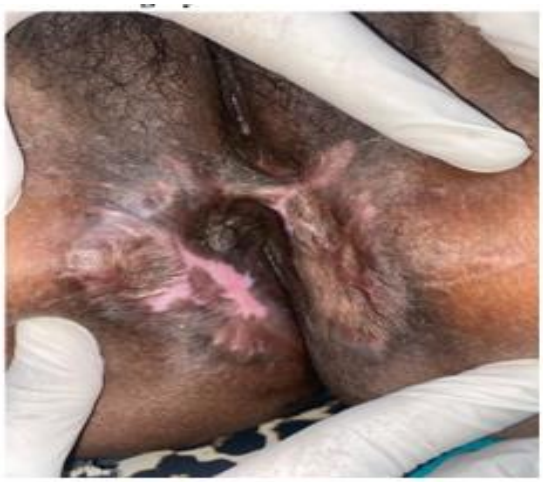

Figure 7: healed scar over graft recipient site (perianal region) after 3 months of initial surgery

DISCUSSION

Fournier's gangrene (FG) is an uncommon, life-threatening necrotizing fasciitis primarily affecting males, with mean age of onset is approximately 50.9 years, with a male-to-female ratio near 10:1 [6]. An incidence of about 1.6 per 100,000 in the United States [7]. In females, the incidence is lower—around 0.25 per 100,000—but morbidity and mortality are significantly higher, ranging from 20% to 43%, compared to 7.5% in males. In this case, the patient was only 19 years old and had no comorbidities. In women, FG most commonly involves the labia and perianal region, frequently arising from pelvic, vulvar, or perianal abscesses (22%–33%) and perianal or gluteal abscesses (31%) [8]. Colles' fascia facilitates the potential spread of infection to the lower abdominal wall.

Severe cases complicated by sepsis or multiple-organ dysfunction may reach mortality rates of up to 70% (4). Our patient initially presented with a perianal abscess that subsequently progressed to FG. Timely and aggressive removal of necrotic tissue remains the primary approach to treatment [9]. In extensive cases involving genital or perianal structures, reconstructive surgery such as grafting or flap coverage may be required to restore function [3]. Supportive measures such as urinary or fecal diversion help reduce contamination, improve wound healing, and maintain nutrition [4]. Despite improvements in antibiotic and surgical care, contemporary literature reports mortality rates around 14.7% [10]. In our patient, thorough debridement followed by fecal diversion enabled grafting within 20 days and reduced morbidity.

Ochiai et al. reported six cases of FG, including one 57-year-old patient who was discharged after 34 days of hospitalization due to post-debridement shock [10]. Kostoski et al. described another case discharged after five weeks; prolonged recovery was attributed to comorbidities such as hypertension and diabetes mellitus [3]. In contrast, our patient being young and otherwise healthy was discharged 10 days after grafting with favorable outcomes.

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CONCLUSION

Fournier's gangrene remains a rare but potentially fatal infection that presents unique diagnostic and therapeutic challenges. In females, delayed recognition often worsens prognosis. Thorough evaluation of predisposing factors, combined with prompt surgical intervention and multidisciplinary management, is essential to improve survival and functional recovery. Increased clinician awareness is critical to achieving early diagnosis and reducing morbidity and mortality associated with this condition.

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