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Fournier's Gangrene: Retrospective Study

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Abstract **Original Research Article**

Fournier's gangrene is a rapidly progressive necrotizing fasciitis of the perineum, associated with a considerable mortality rate and representing a medical and surgical emergency. We report a retrospective study including 10 patients managed at our department between 2021 and 2024. The mean age was 52 years, and a risk factor was identified in 8 patients, mainly diabetes, a history of anal abcess, and hemorrhoidal disease. The mean time of consultation was 14 days. Four patients were admitted at the stage of established gangrene, including two in septic shock. All received resuscitation, broad spectrum antibiotic therapy, and urgent surgical deridement. With secondary reconstruction performed in three patients. The prognosis depended mainly on the patient's underlying conditions, the delay in management, and the extent of the lesions, highlighting the importance of early and aggressive treatment.

Keywords: Fournier's gangrene, Necrotizing fasciitis, Perineum, Diabetes mellitus, Surgical debridement, Septic shock.

INTRODUCTION

Fournier's gangrene is a rapidly progressive necrotizing fasciitis of the perineum and external genital organs, associated with a poor prognosis. It is a medico-surgical emergency requiring multidisciplinary management. The aim of this study is to determine the epidemiological, clinical, and therapeutic aspects of Fournier's gangrene of anal origin.

MATERIALS AND METHODS

We conducted a retrospective study of a series of 10 patients managed in the Department of Visceral Surgery at Ibn Tofail Hospital over a period of 3 years, from 2021 to 2024.

RESULTS

The mean age of our patients was 52 years. A history of diabetes, anal abscess, and hemorrhoidal disease was present in 8 patients. The average delay between the onset of initial symptoms and admission to the emergency department was 14 days. Six patients presented in the pre-gangrenous phase, with perineo-scrotal pain associated with edematous-erythematous lesions and crepitus, while four patients presented with established gangrene, including two cases of septic shock.

All patients received medical management consisting of resuscitation measures and triple antibiotic therapy, as well as surgical management involving immediate and extensive surgical debridement. Three patients underwent second-stage surgery (skin grafting) with satisfactory aesthetic outcomes. The mean healing time was 28 days, and the average hospital stay was 18 days. Patient condition, delay in management, and extent of necrosis were the main prognostic factors.

DISCUSSION

Fournier's gangrene is a necrotizing fasciitis of the perineum and external genital organs, of polymicrobial origin, characterized by a fulminant course and a high mortality rate. It occurs predominantly in middle-aged or elderly men, often with underlying risk factors such as diabetes, alcoholism, or immunosuppression.

The pathophysiology is based on a synergistic aerobic–anaerobic infection leading to obliterative endarteritis and microvascular thrombosis, resulting in ischemia followed by extensive necrosis of the superficial fascia, with a high risk of severe sepsis and multiorgan failure. The origin may be cutaneous, urogenital, anorectal, or idiopathic.

The diagnosis is primarily clinical, and radiological investigations should not delay management. Treatment relies on resuscitation measures, broad-spectrum empirical antibiotic therapy subsequently adapted to bacteriological findings, and above all, urgent, aggressive, extensive, and repeated surgical debridement. This procedure must eliminate all necrotic tissue, as any remaining focus may serve as a source for further septic episodes, and it remains the main prognostic factor for recovery.

Prognostic scores, particularly the Fournier's Gangrene Severity Index (FGSI), may help assess mortality risk and guide early admission to intensive care units.

CONCLUSION

Fournier's gangrene is a severe infection that primarily affects immunocompromised patients. Its rapid progression requires urgent and multidisciplinary management, combining resuscitation, antibiotic therapy, and extensive, repeated surgical debridement, followed after infection control by a secondary reconstructive phase. The medial thigh fasciocutaneous flap is considered the reference technique for scrotal reconstruction. Despite all available therapeutic measures, Fournier's gangrene remains associated with high rates of mortality and morbidity.

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