

CASE REPORT

Fournier's Gangrene with Extension into Deep Tissues

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ABSTRACT

Fournier's gangrene is a rather rare disease resulting in the catastrophic spread of the infection usually through the superficial fascias. It is also known as polymicrobial necrotizing fasciitis of the urogenital and perineal areas. In rare instances, the infection may spread through the deeper structures resulting in worsened outcomes and poor prognosis of the condition. The extent

of the disease can be evaluated through multiple modalities with CT scan being the choice of investigation due to its convenience and ability to reveal the cause of infection (e.g. perirectal abscess) and assistance in surgical planning.

KEYWORDS

Fournier's Gangrene, Abscess

INTRODUCTION

Fournier's gangrene, initially thought to be a rare type of venereal disease among young men, is polymicrobial necrotizing fasciitis of the perineal, perianal or genital areas. ⁽¹⁾ Trauma and immune deficiencies (e.g. diabetes) may increase the susceptibility to the disease. ⁽²⁾ Early and aggressive management of the condition is critical as the disease carries a high mortality rate of 2 – 20%. ⁽³⁾ It is important to identify the extent of the disease as it is necessary to surgically debride the necrotic parts.

CASE SUMMARY

A 24-year-old previously healthy male presented to the emergency department with complain of fever, perineal region pain, swelling and discharge for the last 7 days. There were no other associated complaints. Examination revealed a tender swelling over the perineal region with a discharging sinus. Systemic examination was unremarkable. Baseline workup, infection markers, blood cultures were sent. Preliminary diagnosis of the perineal abscess was made and a CT of the region was planned to see the extent of the disease. CT scan, however, revealed a perineal abscess with extensive Fournier's gangrene involving the deep structures of the perineal region. The infection was extending into the abdominal cavity. The patient was given broad-spectrum antibiotics and the abscess was surgically drained along with debridement of the necrotic tissue. Packing of the abscess was done and the intervention resulted in

improvement of patient's symptoms.

Figure 1 and 2 demonstrating a left perineal abscess formation measuring about 40 × 43 mm with marked surrounding phleg-



Figure. 1

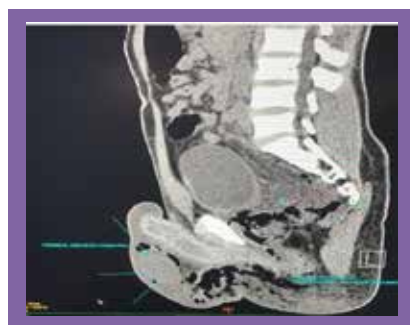


Figure. 2

mon. Marked air in the left scrotum extending into the left medial thigh, left the gluteal region, left pelvis, bilateral lower abdomen, left greater than right with surrounding inflammatory changes within the mesenteric fat, small free fluid and subcutaneous soft tissue swelling. Bowel loop is seen extending into the scrotal sac.

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Figure 3: Axial view describing the extension of the gangrene into the medial superficial compartment of the thigh

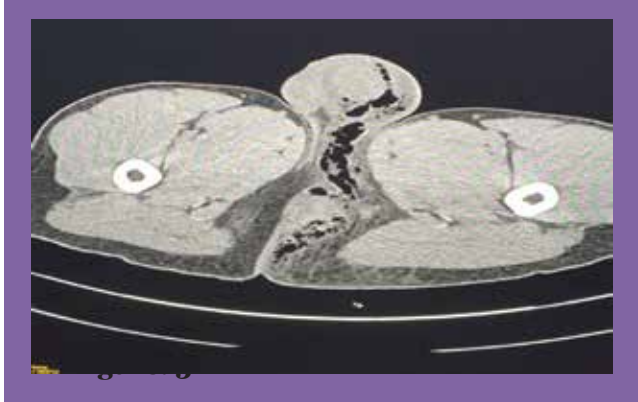


Figure. 3

DISCUSSION

Despite advancement in the diagnostic modalities and early intensive care management, the mortality rate in Fournier's gangrene remains high. (4) The common causes of the disease include skin injuries, immune deficiencies such as HIV, diabetes, alcohol abuse and morbid obesity. (2) Inflammatory response caused by the infectious organisms results in obliterative endarteritis of the surrounding vessels and vascular thrombosis of the soft tissues resulting in necrosis. The physical examination, ultrasonography, CT scan, and MRI can be used as diagnostic aids. In more unstable patients, bedside ultrasonography can be a useful modality of imaging for diagnosing a suspected Fournier's gangrene (sensitivity 88.2%, specificity 93.3%) with 100% sensitivity for air in soft tissues as seen in cadaveric studies. (1, 5) MRI is another useful modality but is not recommended due to time consumption and similar results as CT scan in diagnosing and planning for management. CT remains the most sensitive and specific imaging modality for the diagnosis of Fournier's gangrene. (6) CT gives a high contrast resolution and cross-sectional display of muscles, fat, vessel and bony structures. These characteristics assist in planning for the surgical management of the condition. If widespread infection occurs, it is usually managed by a team of urologists, plastic surgeon, and intensivists. Newer treatment modalities include vacuum-assisted dressings and hyper-

baric oxygen therapy along with debridement and broad-spectrum antibiotics. (6)

The usual presentation of Fournier's gangrene is along the superficial fascias and is restricted from spreading into the deeper structures by Camper's and Scarpa's fascia. In this case, the infection had breached the superficial fascia and extended up to the abdominal wall resulting in the collapse of the bowel loop into the scrotal area. This type of extent has been reported in very limited cases and usually carries a poor prognosis.

CONCLUSION

Fournier's gangrene is a relatively uncommon disease that carries a high mortality rate. The benefits that CT scan provides are the detection of the extent of disease and aid in planning for the surgical debridement and management of such patients. Education of the patients regarding the predisposing factors and their prevention is extremely important to prevent worsening and recurrence of the disease.

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