

## CASE REPORT

# Fournier's gangrene in a female with spinal cord injury: a case report

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**Introduction:** We report the case of a woman with spinal cord injury (SCI) who presented to us with Fournier's gangrene.

**Case report:** A 60-year-old patient with SCI, ASIA A, neurological level D6, on clean intermittent catheterization presented with rapid necrosis of the perineal region, including the labia and anus, which developed after traumatic catheterizations for clean intermittent catheterization. She required repeated debridement and loop colostomy for management.

**Conclusion:** We conclude that patients with SCI are rarely at risk for Fournier's gangrene secondary to neurogenic bladder and bowel, as well as to impaired sensations and genital flora. Treating physicians need to be aware of this complication in order to prevent mortality.

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## Introduction

Fournier's gangrene (necrotizing fascitis) is a destructive invasive infection of the skin, subcutaneous tissue and deep fascia, with high mortality.<sup>1</sup>

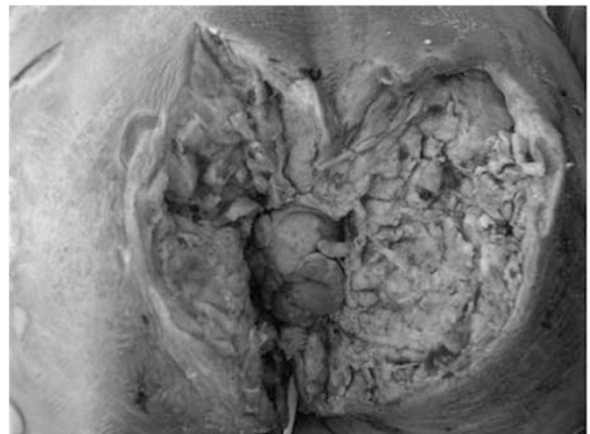
Patients with spinal cord injury (SCI) are more prone to Fournier's gangrene,<sup>2</sup> but the few case reports reported in world literature are on male spinal cord-injured patients.<sup>2,3</sup> We report the case of a female with SCI who presented to us with Fournier's gangrene.

## Case report

A 60-year-old woman with an ossified posterior longitudinal ligament along the thoracic vertebral level presented with progressive weakness in both lower limbs with inability to walk since the past 6 months. Power was of 2/5 MRC grade in both lower limbs, with loss of bladder and bowel control. She was decompressed by posterior laminectomy, but had complete loss of power and sensations below D6 after surgery. She was subsequently rehabilitated on wheel chair usage and clean intermittent catheterization.

Six months after being discharged, she presented to us with excoriation of the skin, swelling and redness in the perineal area, along with high-grade fever since the past 3 days. On examination, swelling, redness and induration of the labia majora were observed, and the anorectum was

completely necrosed along with excoriation of the surrounding skin (Figure 1). She had high-grade fever (102°F), an increased total leukocyte count (17.7), increased polymorphs (84%) in differential count and an increased C-reactive protein (20 mg l<sup>-1</sup>). She also had low albumin (2.5 g per 100 ml), low total proteins (5.2 mg per 100 ml) and low hemoglobin (10 g per 100 ml), with normal blood sugar and creatinine. She was on intermittent catheterization for bladder management and there was a history of trauma to the perineal area while undergoing catheterization. She also had urinary tract infection, for which she was on irregular antibiotics. She had a grade II sacral sore, which required debridement.



**Figure 1** Fournier's gangrene.

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She was immediately taken up for surgery, and a radical debridement of the anorectal area, along with a diverting loop sigmoid colostomy, was performed. Postoperatively, she was kept in the intensive care unit, where she was given massive transfusions of whole blood and fresh frozen plasma. Culture sensitivity reports showed polymicrobial growth (type 1 Fournier's gangrene), and *Streptococcus* sp. and *Klebsiella* were isolated from tissue culture obtained at debridement. Initially, empirical treatment was commenced with ceftriaxone and metronidazole, followed by injection with vancomycin and ceftriaxone once culture reports were obtained.

She required debridement every alternate day for almost 12 sittings. Biopsy tissue revealed extensive acute inflammatory cells with foci of necrosis and acute vasculitis with thrombus formation.

Once debrided, tissue was healthy and skin grafting was carried out.

## Discussion

Studies on genital skin flora in patients with SCI have shown several species of Gram-negative rods, in addition to normal Gram-positive flora. Average bacterial counts in patients with SCI were more as compared with those in controls. Differences in skin flora between SCI patients and neurologically normal persons may be the results of variables such as antibiotic usage, presence of a condom catheter/repeated catheterizations, skin moisture, urine leakage, pH, skin temperature, personal hygiene and/or neurogenic bowel management.<sup>4</sup>

Decreased natural and adaptive immune responses have been reported in patients with SCI. This may be explained by the fact that the innervation of bone marrow below the injury lacks normal supraspinal activity, that is, a decentralized bone marrow.<sup>5</sup> This contributes to the increased susceptibility of SCI patients to opportunistic infections of

the urinary tract, lungs and skin, which are the major causes of morbidity in survivors.

The sequence of events in our patients was probably precipitated because of repeated trauma while undergoing catheterization, along with factors that predispose patients with SCI to infection. In patients with SCI, lack of pain could cause a delay in seeking medical attention.

The above-mentioned patient required radical debridement, as a result of which her anal orifice along with the sphincter had to be excised and she required a diverting loop colostomy.

Although no anatomical differences have been found in males predisposing them to Fournier's gangrene, this is a rare report of a female with SCI being affected by Fournier's gangrene.

We conclude that Fournier's gangrene can be a rare but debilitating cause of morbidity and mortality in patients with SCI. Awareness by the physicians caring for patients with SCI is required for the early detection of this problem, as lack of pain and coexisting bedsores may delay presentation, wasting an early opportunity of debridement. Once diagnosed, aggressive management by repeated debridement and antibiotic coverage can help reduce mortality.

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