# Type II diabetes mellitus: new presentation manifesting as Fournier's gangrene

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DECLARATIONS

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We report a case of a man whose unusual first presentation of diabetes mellitus type II manifested as Fournier's gangrene.

## Case report

A 58-year-old fisherman was admitted complaining of a one-week history of painful, discharging scrotal swelling (Figure 1).

He had recently been feeling thirstier than normal but was not a known diabetic. He had no significant past medical history other than smoking 40 cigarettes daily for the last 40 years. The initial impression by the GP at onset was a furuncle for which he was started on a course of flucloxacillin. However, the symptoms worsened culminating in scrotal skin discolouration, pain and foul smelling discharge. He was systemically well without fever.

On examination, he was obese with swollen, oedematous black necrotic right scrotal skin. The clinical diagnosis was Fournier's gangrene and initial management was with fluids and antibiotics.

Urine dipstick showed >1000 mmol/L glucose and 40 mmol/L ketones. The fasting blood sugar was 16.1 mmol/L. Therefore, a diagnosis of diabetes mellitus type II, of which Fournier's gangrene is a known complication, was made.

He underwent emergency examination under anaesthetic, cystoscopy, catheterization, scrotal exploration and debridement of all obvious gangrenous tissue. The whole of the right hemiscrotum and adjoining thigh were necrotic (Figures 2 and 3). Cystoscopy was normal.

The postoperative recovery was uncomplicated. The diabetic and tissue viability nursing teams were involved. When the wound became healthy the option of early skin grafting was declined, preferring healing by secondary intention.

In respect to his newly diagnosed diabetes, he was started on Metformin 850 mg b.d. with dietary advice. He was ultimately discharged home in a satisfactory condition with arrangement for wound care in the community.

**Figure 1**
**Gangrenous hemiscrotum**

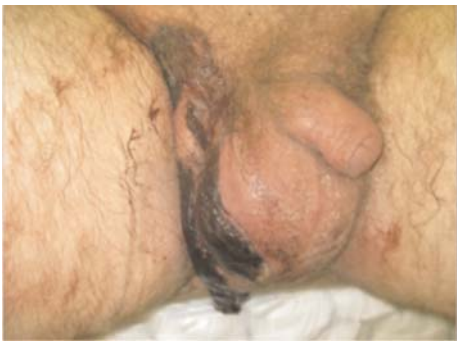


**Figure 2**
**Post debridement**

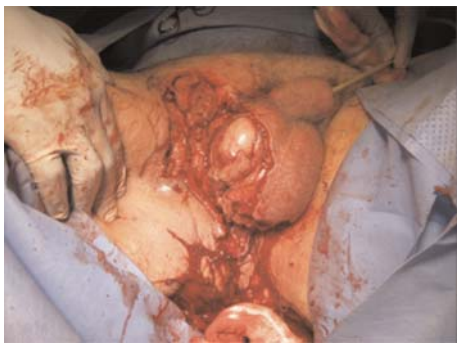
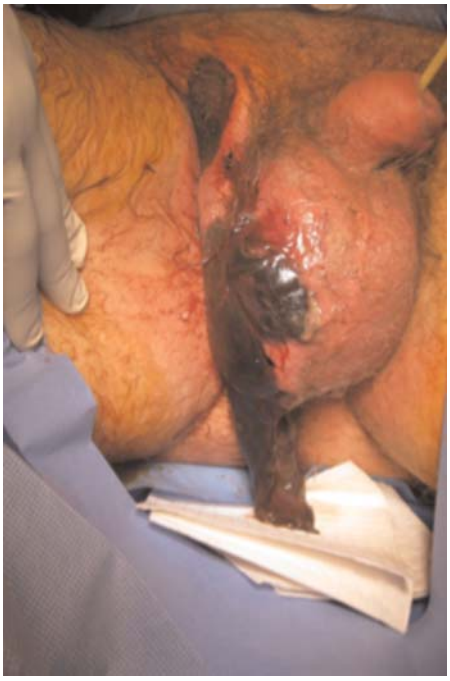


**Figure 3**
**Exposure in theatre**



## Discussion

Fournier's gangrene tends to occur in patients previously known to be diabetic. However, as is in our case, Fournier's gangrene unmasking previously undiagnosed diabetes mellitus is uncommon.[1] Previous cases of unknown diabetes mellitus type II presenting as Fournier's gangrene have presented in a much more advanced state compared to our patient.[2] Interestingly, the patient was systemically well.

Fournier's gangrene was first described in 1883 by Jean Alfred Fournier as 'fulminant gangrene of the penis and scrotum in young men'. It can however occur at any age, women may be susceptible, but the disease predominantly affects men. The disease itself is uncommon, but should be treated as a life-threatening emergency due to a mortality rate of up to 40%. Predisposing factors include diabetes mellitus, alcoholism, intravenous drug use, HIV and malignancy. Fournier's gangrene is caused by normal skin commensals of the perineum and genitalia which act synergistically to cause infection.[3] Treatment involves vigorous antibiotic therapy, surgical debridement and treatment of identified predisposing factors.

It is a recognized phenomenon that all infections induce insulin resistance;[4] thus, diabetes commonly manifests itself under such conditions as it may have done in the case of our patient.

### References


1 Cheng TJ, Tang YB, Lin BJ, Chueh SC. Fournier's gangrene as the initial clinical manifestation of diabetes mellitus. *J Formos Med Assoc* 1996;**95**:184–6

2 Slater DN, Smith GT, Mundy K. Diabetes mellitus with ketoacidosis presenting as Fournier's gangrene. *J R Soc Med* 1982;**75**:531–2

3 Sullivan ME, Morgan RJ. Scrotale mergencies. In: Mumtaz F, Woodhouse CRJ, McAninch JW, Cochlin D, eds. *Management of urological emergencies*. London: Taylor and Francis, 2004:181–97

4 Drobny EC, Abramson EC, Baumann G. Insulin receptors in acute infection: A study of factors conferring insulin resistance. *J Clin Endocrinol Metab* 1983;**58**:710–16