Novel treatment (new drug/intervention; established drug/procedure in new situation)

Multiple large infected scrotal sebaceous cysts masking Fournier's gangrene in a 32-year-old man

William Angus, Rahul Mistry, Michael S Floyd Jr, Derek G Machin

Department of Urological Surgery, University Hospital Aintree, Liverpool, UK

Correspondence to Dr William Angus, william.angus@nhs.net

Summary

Extensive large sebaceous cysts on the scrotum are rare and present a problem only when infected or when cosmesis is deemed unacceptable by the patient. Fournier's gangrene is an infective condition with a high death rate. We describe a case of Fournier's gangrene in a patient masked by multiple large infected scrotal sebaceous cysts. A 32-year-old man with a history of alcohol dependency, cirrhosis and multiple scrotal sebaceous cysts presented with acute scrotal pain and erythema. Necrosis of the area became evident within 12 h of his admission and an emergency surgical debridement was performed. The wound was left open to heal via secondary intention over 4 weeks without complication. Fournier's gangrene is a rapidly progressive condition and early surgical debridement is crucial to achieve satisfactory outcomes. In this case, prompt intervention allowed a large scrotal defect to heal without the need for skin grafting.

BACKGROUND

True sebaceous cysts are rare and originate from the sebaceous glands of the skin and are frequently found on the scalp, ears, back and upper arms. In males, in particular, they may develop on the chest and scrotum.¹ The appearance of multiple large scrotal sebaceous cysts can be daunting to the inexperienced clinician; however, they are typically slow growing, benign and require surgical treatment only if they become infected or are deemed cosmetically unacceptable by the patient.²

Fournier's gangrene is a necrotising infection usually arising in the perineum and is frequently caused by a mixture of both aerobic and anaerobic bacteria.³ It is named after the French dermatologist Alfred Jean Fournier, who first described the condition in 1883.⁴ Predisposing factors include diabetes mellitus, alcohol dependence and recent trauma, catheterisation or urethral instrumentation.⁵ It is a true urological emergency with a death rate between 20% and 40% even if early surgical debridement is achieved.⁶ The need for further surgery is also common and the period of convalescence can be extensive.⁷

We describe the presentation of multiple large sebaceous cysts on the scrotum with associated Fournier's gangrene in a male alcoholic and describe the management and outcome.

CASE PRESENTATION

A 32-year-old man presented with a 1-week history of increasing scrotal pain and erythema. He had noticed multiple sebaceous cysts on his scrotum increasing in size and number for a year prior to presenting. On admission he complained of severe scrotal pain that was aggravated by movement. There was no history of trauma or urethral instrumentation.

His medical history revealed a significant alcohol excess over 10 years with cirrhotic liver disease (Child-Pugh score A) and chronic pancreatitis.

On examination the patient was haemodynamically stable, afebrile but cachectic with poor dentition. His abdomen was soft and non-tender with dilated superficial veins in keeping with liver cirrhosis. Examination of the external genitalia revealed multiple exquisitely tender sebaceous cysts of varying sizes covering the entire scrotum. Both testes were atrophic and barely palpable. There was an area of erythema in the centre of the scrotum with purulent discharge. The penis and perineum were normal. No necrosis of the external genitalia was visible at this time.

Routine blood sample revealed a macrocytic anaemia and thrombocytopenia, and deranged liver function tests in keeping with the patient's alcohol history. His white blood cell count, C-reactive protein and renal function were within normal limits and urinalysis was normal.

A diagnosis of infected sebaceous cysts was made and the patient was started on intravenous antibiotics. Scrotal ultrasonography revealed that both testes appeared viable and that an area of skin was hypoechoic and avascular, thought to represent a disrupted cyst.

The patient was reviewed again 12 h later. The pain had dramatically increased and the erythema noted on admission had disseminated with the development of a central necrotic area over his scrotal raphe. A diagnosis of Fournier's gangrene was made and emergency surgical debridement was performed (figure 1). Under general anaesthesia a sample of pus from the necrotic abscess was sent for culture in addition to a large area of excised sebaceous cysts. The necrotic scrotal tissue was fully excised to healthy bleeding tissue and a hydrogen peroxide wash was performed to complete the debridement. Both testicles appeared healthy and were left untouched beneath the tunica vaginalis.

The resulting wound, 5 cm×4 cm, was dressed with a Kaltostat dressing and a scrotal support applied. Microbiological advice recommended intravenous

Figure 1 Preoperative appearance.

piperacillin, tazobactam and vancomycin. Wound review at 48 h revealed a healthy defect with evidence of granulation and no residual necrosis (figure 2).

OUTCOME AND FOLLOW-UP

The patient had an unremarkable postoperative recovery. The wound was inspected daily and the dressing changed following each wound review. Formal culture results revealed *Staphylococcus aureus* and *Escherichia coli*, so on the third postoperative day the patient was switched to oral flucloxacillin and metronidazole to complete a 2-week course. Prior to discharge on day 5 the wound looked healthy with no evidence of infection or necrosis. Outpatient review after 2 weeks revealed adequate wound healing with no signs of recurrent infection and a minimal skin defect. Wound review 6 weeks postoperatively revealed a fully healed scrotum (figure 3).

DISCUSSION

Very large scrotal sebaceous cysts, although alarming in appearance, are benign and do not require treatment unless infected or desired by the patient for cosmetic reasons. This case describes an extreme presentation of these sebaceous cysts resulting in Fournier's gangrene.

Figure 2 Postoperative appearance on day 2.

Figure 3 Postoperative appearance at 6 weeks.

Despite modern treatments such as hyperbaric oxygen therapy and advances in surgical techniques, Fournier's gangrene remains a condition with a very high mortality rate. Early recognition and prompt treatment are pivotal factors in determining outcome. Aggressive treatment can result in considerable genital and perineal skin loss and in some cases colostomy formation is required.⁸

Specialist surgical intervention using plastic surgical techniques such as musculocutaneous or thigh pedicle flaps may be required for satisfactory cosmesis.⁹ Reconstruction of the scrotum requires delayed treatment to permit satisfactory wound healing. These patients frequently have co-morbidities which pose challenges for skin grafting, wound healing and anaesthetic requirements. Defects involving the tunica vaginalis further complicate the management of scrotal skin loss as the exposed testes often require temporary placement in the groin until a neoscrotum is fashioned.

In this case report, we demonstrate that conservative management of poor-quality scrotal skin following debridement is still permissible with reasonable cosmetic outcomes. In certain patient populations where compliance with treatment can pose challenges, a single speciality approach can avoid the need for grafting and can yield acceptable results, thus avoiding multiple procedures and prolonged hospitalisation.

Learning points

- ▶ Rapid and urgent surgical debridement is the key to improving Fournier's gangrene outcomes.
- ▶ Primary wound closure following extensive scrotal debridement after Fournier's gangrene may require plastic surgical intervention and may not be possible in a single procedure.
- ▶ Considerable loss of poor-quality scrotal skin can occur and adequate healing without skin grafting is possible with acceptable cosmetic outcomes.

Competing interests None.

Patient consent Obtained.

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