

Fournier's Gangrene Following Penile Self-injection with Cocaine

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To date, there have been no reports of Fournier's gangrene following penile self-injection of cocaine. We report a case of cocaine-induced Fournier's gangrene requiring parenteral antibiotics followed by primary surgical debridement and delayed reconstructive procedure of penile skin.

Key words: Fournier's gangrene, penile self-injection, primary surgical debridement, delayed reconstruction.

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To our knowledge this is the first case of Fournier's gangrene after penile self-injection of cocaine to be reported (1). However, the injection of other fluids especially oil origin may lead to serious complications such as to fat embolism (2).

CASE REPORT

A 31-year-old man presented to the emergency department with 22-hour history of pain in penis after self-injection with crystalline cocaine. A short-term erection resulted and subsided quickly. Patient denied sexual activity. Then, over 12 hours, the patient noticed

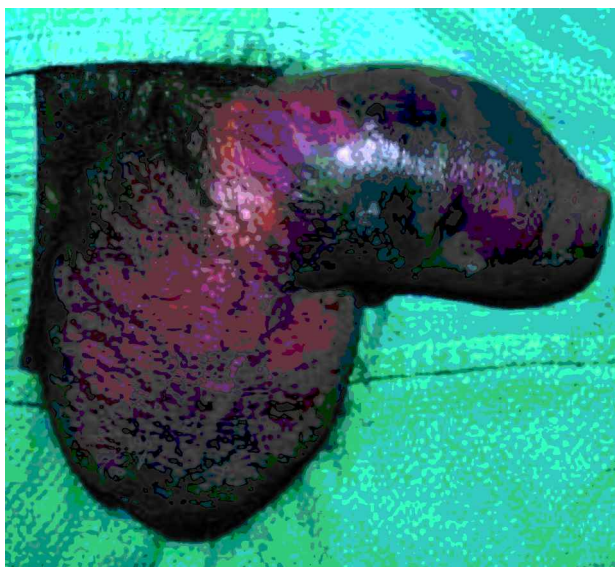


Fig. 1. The Fournier's gangrene of the right shaft of penis around the site of self-injection.



Fig. 2. Penile wound just after primary surgical debridement.

swelling at the site of the injection. A physical examination revealed penile bruising mostly along the right shaft, edema and tenderness with palpation along the right corporal body and superficial shaft (Fig. 1). The patient's body temperature was 38.4°C and he had a white blood count of $18.1 \times 10^9/l$. Urine analysis was normal, cultures of blood and urine were negative. Color Doppler ultrasonography revealed penile hematoma on the site of injection, and corporal artery flows of 11–15 cm/s. To diminish painful tumescence of penis 200 µg phenylephrine was injected intracavernously. Parenteral antibiotics (penicillin G4 million units, gentamicin 140 mg and metranidazole 500 mg) were started followed by prompt primary debridement of penile skin (Fig. 2). When the patient became afebrile, reconstruction using a partial thickness skin graft was performed on Day 5. The patient was discharged on amoxicillin/clavulin for a duration of 3 weeks. Pathology demonstrated skin necrosis, inflammation and Gram-positive cocci. All cultures remained negative. Post-operatively, the patient reported spontaneous erections but has failed to return for further follow-up.

CONCLUSIONS

We speculate the mechanism of pathogenesis in this case was direct inoculation of bacteria by injection. The role of vasoconstriction as caused by the cocaine may have decreased local immune defenses leading to rapid progression. Primary surgical debridement and aggressive antibiotics were successful in this case. After a patient's stabilization, a delayed penile skin graft partial thickness may be used for reconstructive surgery as in this case.

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REFERENCES

1. Smith GL, Bunker CB, Dinnen MD. Fournier's gangrene. *Br J Urol* 1998; 81: 347–55.
2. Thomas P, Boussuges A, Gannier M, Quennee V, Donati S, Ayem ML, Barthelemy A, Sainty JM. Fat embolism after intrapenile injection of sweet almond oil. *Rev Mal Respir* 1998; 15: 307–8.
3. Vick R, Carson CC. Fournier's disease. *Urol Clin North Am* 1999; 26: 841–9.