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Penile glans necrosis following penile sclerosing lipogranuloma repair: a rare case



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ABSTRACT

Background: Ischemia or necrosis of the penile glans is a rare condition, commonly as a result of trauma, diabetes mellitus, circumcision, vasculitis and vasoconstrictive solutions administration. Sclerosing lipogranuloma of the penis is mainly a complication arising from injection of oil-based liquid to the subcutaneous tissue of the penis. No previously reported case of penile glans necrosis has been reported as the result of penile sclerosing lipogranuloma repair.

Case Description: We report a 45-year-old man presented with a hardened penile skin after injection of unknown liquid material to his penile skin 10 years earlier. The abnormality made him difficult to perform sexual activities because of pain during sexual intercourse.

The suprapubic area was also affected, with a tender mass similar to the penile skin. First stage penile reconstruction using Cecil's two stage technique was performed. After seven days, the patient noticed his penile glans was blackened, and he complained about less sensation on the glans. In the fourteenth day, debridement of the necrotic glans surface performed, and healthy glans tissue was found beneath the necrotic tissue. After six months, the second stage reconstruction was performed with a satisfying result.

Conclusion: Necrosis of the penile glans is a rare condition after reconstruction of sclerosing lipogranuloma of the penis. Debridement of the necrotic tissue and glans resurfacing can be a good choice to correct this problem.

Keywords: sclerosing, lipogranuloma, penile, paraffinoma, glans, necrosis.

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INTRODUCTION

Glans necrosis is a rare condition, commonly result from trauma, inadvertent administration of vasoconstrictive solutions, diabetes mellitus, circumcision and vasculitis.¹⁻³ The diagnosis is generally based on glans skin appearance.⁴ Sclerosing lipogranuloma of the penis is a foreign-body granulomatous inflammation in the dermis and subcutaneous tissue, usually due to injection of foreign liquid material between the penile skin and fascia profunda. The injected material relatively confined and flexible, enlarging the diameter of the penis.⁵⁻⁷ Although some patients have no complications, the injected materials cannot be metabolised and a foreign body reaction occurs. Delayed sequelae, like the hardened, necrotic skin, ulceration and other complications can occur.⁷⁻¹⁰ Many approaches have been offered to fix this abnormality, but so far surgery is still the best option.¹¹ One of the surgical technique used to correct this abnormality is the two-stage scrotal flap technique.¹² We report a rare case of glans penis necrosis after the first stage of scrotal flap technique.

CASE REPORT

A 45-year-old man presented with a hardened penile skin after injection of unknown liquid material to his penile skin 10 years earlier. The abnormality made him difficult to perform sexual activities because of pain during sexual intercourse. The suprapubic area was also affected, with a tender mass similar to the penile skin. No ulceration was noted (**Figure 1**). We planned to perform two-stage scrotal flap repair on this patient. First stage penile reconstruction was performed. The penis was denuded, and all the granuloma was excised. The hardened skin was very deep, it was difficult to find the surgical plane between the hardened skin and the cavernous body. The denuded penis was then buried into the scrotum, and vacuum drain and elastic bandage dressing applied. After 4 days the dressing was taken off. The wound looked good and the patient was sent home (**Figure 2**). After seven days, the patient noticed his penile glans was blackened, and he complained about less sensation on the glans. The blackened glans was also colder than the other part of the penis. In the eleventh day,

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Figure 1. Preoperative appearance



Figure 2. After removal of the dressing



Figure 3. The appearance of the penile glans after 7 days

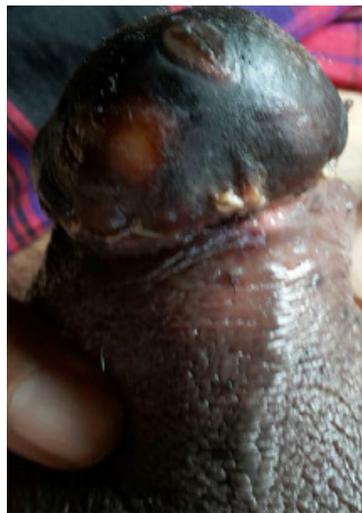


Figure 4. The appearance of the penile glans after 11 days



Figure 5. Glans resurfacing showed healthy glans penis beneath the necrotic tissue



Figure 6. Penis appearance six months after glans resurfacing

the complaint was getting worse (**Figure 3 & 4**). In the fourteenth day, debridement of the necrotic glans surface performed, and healthy glans tissue was found beneath the necrotic tissue (**Figure 5**). After six months, the penis and penile skin were good and ready to undergo the next stage of surgery, the V-Y plasty to reconstruct the penis (**Figure 6**). The second stage reconstruction was performed, with a satisfying result (**Figure 7 & 8**).

DISCUSSION

Injection of mineral oil into the external genital was first reported by Robert Gersuny in 1899 to correct the absence of a testicle in a castrated patient because of genital tuberculosis.⁵ After that, mineral oil injection was used by physicians to treat many medical conditions, including syphilis, haemorrhoids, and inguinal hernias.¹³ Soon the complications of these procedures, like ulcerations, pain, and disfigured body contour followed.⁵ Death after mineral oil injection also reported as the result of embolisation.¹¹ The lesions have been known to have lag times from weeks to years after administration.¹³ Because of the complications, this practice was abandoned in many countries.¹⁴ However, in many places like eastern Asia, South East Asia, Middle East and Eastern Europe this practice is still performed, mostly by nonmedical persons.^{5,6,14-17} The patient reported in this case had his penis injected to enlarge the penile girth. Mineral oil was injected subcutaneously. After a few years the penile skin became hard and the patient complained of pain in erection and difficulties in performing sexual activities.

Human body lacks of enzymes to metabolize exogenous interstitial oil, and consequently a foreign body granuloma occurs.¹⁶ Normal subcutaneous fat is replaced by lakes of oil interspersed with fibrous tissue and granulomatous chronic inflammatory reaction.¹⁸ Granulomatous and fibrotic reactions occur. This is known as lipogranuloma, due to recipient tissue involved.¹¹

Surgery is the best modality to treat this disorder. Complete excision followed by raw surface closure is the main principle.^{5,13,17} Usually, a clear division between the granuloma and the corpora can be observed.¹⁶ Small defect can be closed with primary suturing. Wider defect needs to be closed with skin from other locations. Split thickness skin graft (STSG), full thickness skin graft (FTSG), scrotal flaps and Cecil's scrotal implantation are some of the choices to close the defect.¹⁹ Non-surgical treatment was proposed with no satisfactory result.²⁰

In this patient we performed two stage Cecil's scrotal flap implantation reconstruction



Figure 7. After V-Y plasty to reconstruct the penis



Figure 8. Penis appearance 1 week after last surgery

technique. The first stage is removal of all the granulomatous tissue from the penis, scrotum and suprapubic area. The second stage is V-Y plasty to reconstruct the penis.¹⁹ After the first stage, the patient complained about blackened penile glans and reduced sensitivity of the penile glans. This condition probably because of the granulomatous tissue that stick to the neurovascular bundle, which can lead to vascular problem. When we performed glans resurfacing procedure, we found healthy glans tissue beneath the necrotic tissue. After six months the V-Y plasty procedure performed with satisfactory result. This paper is the first paper that report penile glans necrosis as the complication of sclerosing lipogranuloma reconstruction surgery.

CONFLICT OF INTEREST

The author declares there is no conflict of interest

ETHICAL CONSIDERATION

Patient had received signed inform consent regarding publication of patient respective photograph in journal article.

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