

Delayed Intervention of Infected Penile Siliconoma due to Unauthorized Hair Oil Injection: A Case Report

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Introduction. Penile siliconoma is an uncommon condition resulting from silicone injections into the penis, often prompted by the desire to enhance sexual performance or physical appearance. However, these procedures are associated with a significant risk of complications, including infection, granuloma formation, and penile deformation.

Case. This case report describes a case of penile siliconoma in an 18-year-old male patient from a rural area who underwent penile silicone injection without medical supervision. The patient presented with thickening of the skin on the penile shaft accompanied by sores and severe pain due to self-injecting hair oil. Surgical procedures by urologists with partial excision, extraction of necrotic tissue, and reconstruction are carried out in the hope of preventing further damage to the penis.

Conclusion. The case presented here underscores the critical need for patients to exercise caution and seek medical guidance before undergoing any unauthorized cosmetic procedures, particularly those involving the injection of foreign materials into sensitive areas of the body.

Keywords: foreign body reaction, hair oil injection, penile deformation, penile reconstruction, penile siliconoma

Introduction

Penile siliconoma is a condition characterized by the injection of silicone into the penis, has gained attention in recent years due to its increasing prevalence and associated complications [1]. Augmentation through the injection of various foreign substances, including silicone, has become an increasingly popular cosmetic procedure among some individuals seeking to enhance the size and appearance of their genitalia [2].

Men express concern or curiosity about aspects of their genitalia, which includes concerns about the size of their penis. Regardless of the actual penis size, some men may feel dissatisfied, believing their size is insufficient to satisfy their partner or themselves [3]. However, over time, there are still many men who take measures to enlarge the penis by illegal means, namely injecting themselves with improper fluids, outside of expert treatment. While these procedures are often undertaken in the pursuit of enhanced sexual performance or physical appearance, they carry significant risks, including infection, granuloma formation, and penile deformity [4]. Most men who

seek medical procedures to increase penis size, have a normal and perfectly functioning organ [5].

Injecting unauthorized, non-medical fluids, such as liquid silicone or hair oils, into the penis in an attempt to enhance its appearance or function is uncommon but serious practice that can lead to significant disfigurement and dysfunction [6]. These injections can lead to the formation of granulomas, fibrosis, and induration of the penile shaft, resulting in a deformed and dysfunctional penis [7]. In this case report, we describe a patient who experienced a delayed management of an infected penile siliconoma due to self-injection of hair oil, highlighting the importance of seeking proper medical care and the potential consequences of unauthorized cosmetic procedures [4,6]. Furthermore, delays in seeking appropriate medical care can exacerbate these complications, leading to increased morbidity and potential long-term consequences.

Case Report

A young 18-year-old male patient from a remote island overseas came to the emergency

department with severe pain, swelling, and skin thickening on the penis. He had experienced thickening of the penile skin for approximately one month. From the patient's confession, the injection was done based on the influence of his friends who had already practiced this. The reason for the injection was to experience a new sensation and to feel high. The patient explained that he had subcutaneously injected hair oil, diluted by a friend (non-medical practitioner), into his penis. Initially, a soft, irregularly shaped bump appeared along the penis, enlarging the shaft. Three days after the injection, a small wound developed on the back of the penis, which the patient ignored until one week later.

The wound worsened, accompanied by widening swelling and severe pain. The patient then took amoxicillin on his own, but it showed no improvement. As the pain intensified and the wound became more widespread and festering, the patient sought treatment from a midwife nearby. The midwife prescribed an unknown ointment, dexamethasone tablets, mefenamic acid, and amoxicillin tablets. The patient's complaints of pain and soreness decreased, but the wound worsened. He also experienced occasional pain when straining or coughing, but there was no disturbance during urination or defecation.

Upon arriving at the emergency room, the patient's vital parameters were within normal ranges, including a blood pressure of 144/93 mmHg, a heart rate of 123 beats per minute, a respiratory rate of 20 breaths per minute, and a body temperature of 37°C. Also, the laboratory findings did not indicate any significant specific abnormalities (Table 1).

Table 1. Complete blood count result in the emergency room with slightly leukocytosis

Blood Components	Check Up Result
WBC	12,87 ³ /mm ³ (+)
RBC	5,53 million/mm ³
HGB	15,3 g/dL
HCT	44,2%
MCV	79,9µm ³ (-)
MCH	27,7 pg/cell
MCHC	34,6% Hb/cell
PLT	473 ³ /mm ³ (+)
NEUT	9,76
LY	1,59
MO	0,96
EO	0,54

Physical examination showed diffuse swelling and hardening of the entire penile shaft, with visible necrotic tissue and pus discharge from the wound on both the dorsal and ventral aspects (Fig. 1). Some silicone and necrotic tissues appeared detached from the penis when touched (Fig. 2), and the scrotum appeared uninvolved and intact (Fig. 3). After symptomatic management and empirical antibiotic administration in the emergency room, given the characteristic clinical presentation and the patient's history of injecting foreign material into the penis, a consultation with a urologist confirmed that no further diagnostic studies were necessary to confirm the diagnosis of infected penile siliconoma.



Figure 1. Clinical appearance in emergency room



Figure 2. Clinical appearance in the emergency room (video) notice the detachment of necrotic tissue whenever it touched, as well as the characteristic hardening and thickening of the penile shaft due to the fibrosis and granuloma formation associated with the injected silicone.

The patient underwent immediate surgery to remove all the fibrotic and necrotic tissue that had been injected into the penis and surrounding areas, as well as to reconstruct the penis (Fig. 4).



Figure 3. First clinical appearance in operating room, notice the scrotum still intact



Figure 4. Surgery Process. Circumferential incision was made around the coronal along with a longitudinal incision extending to the suprapubic region, which degloved the penis. This surgical approach provided clear exposure of the affected tissues, enabling thorough debridement and removal of the necrotic and infected areas, including the silicone granulomas.

During the procedure, a midline dorsal incision provided access to the penile shaft, revealing fibrotic and necrotic tissues extending from the distal end to the base and into the suprapubic area. The necrotic and fibrotic tissue was meticulously excised (Fig. 5), and the wound was thoroughly debrided. Care was taken to remove all visible silicone. The surgical reconstruction involved using a flap of skin from the scrotum to cover the defect on the penile shaft (Fig. 6). Additionally, a drain was placed in the pubic region to prevent the development of a hematoma.

The patient's postoperative recovery was uneventful, with steady improvement in the penile appearance and function observed during subsequent follow-up visits (Fig. 7). Unfortunately, the patient failed to return for the subsequent scheduled appointments and has remained unreachable since.



Figure 5. Extracted remaining of granulomatous tissue



Figure 6. Penile reconstruction. Scrotal skin flap was used to cover the penile skin defect, and an additional drainage tube was inserted into the suprapubic area to prevent hematoma formation.



Figure 7. Day 2 post-operative appearance

Discussion

Numerous patients experience the consequences of unauthorized cosmetic procedures which have a serious impact on their overall well-being and quality of life [7-8]. Many individuals have resorted to injecting various oils into the tissues beneath the skin of the penis, aiming to enhance its size, despite the well-documented adverse effects reported since 1906. These include siliconoma, subcutaneous nodules, phimosis, skin necrosis, penile deformation, infection, erectile dysfunction, and compromised sexual function [9-10]. Various chemical substances, including mineral oils, paraffin, petroleum jelly and hyaluronic acid are used unlawfully, in an unauthorized manner for injection nowadays, despite the documented harmful side effects [11].

Penile siliconoma is a rare but challenging complication that can arise from the illicit injection of foreign materials, such as silicone, into the penis for cosmetic enhancement [12]. These illicit injections can also pose a serious threat to life, and a firm and safe surgical management may be appropriate for certain patients. Various complications have been documented, including siliconoma, granulomas, skin ulcers, migration even over long distances, pneumonitis, embolism, and multi-system organ failure have been mentioned [13].

These unauthorized procedures are fraught with complications, as exemplified by the case presented here. The introduction of foreign materials, such as diluted hair oil, into the penile tissue can result in severe inflammatory reactions, tissue necrosis, and infection. The delayed treatment in this case, which led to the progressive deterioration of the penile tissue, underscoring the critical importance of seeking immediate medical attention for any such unauthorized cosmetic procedures.

The categorization of penile siliconoma as a rare but potentially devastating complication underscores the importance of healthcare providers and the general public being aware of the significant risks associated with unauthorized cosmetic procedures involving the unauthorized injection of substances into the penis [6]. However, Soebhali proposed a classification system that categorizes penile siliconoma according to the extent of the affected surrounding area where the foreign material was injected (Table 2) [14].

Table 2. Categorization of sclerosing lipogranuloma affecting the penis (as proposed by Soebhali)

Category	Content
I	The lesion was minimal, affecting less than one-third of the penis, without involving the suprapubic or scrotal regions
II	Lesion involving more than one-third of the penile shaft, without extension to the suprapubic or scrotal regions
III	Lesion involving the penile shaft, and affecting the suprapubic regions and half or less of the scrotum
IV	The lesion extended from the penile shaft to the suprapubic region and involved more than half of the scrotum

Additionally, Muranyi et al. (2022) presented a classification system that categorizes penile siliconoma according to the extent and depth of the penile skin impairment (Fig. 8) [15].

- Grade 1: sclerosing lipogranuloma localized to the dartos fascia (the skin can be easily moved over the lipogranuloma during physical examination)
- Grade 2: lipogranuloma infiltrates the penile skin (the lipogranuloma is firmly attached to the penile skin, leading to yellowish discoloration and induration/hardening of the affected area).
- Grade 3: lipogranuloma that caused penile skin ulcer to develop.
- Grade 4: lipogranuloma leading to necrosis and deterioration of the penile skin.

According to these two categorization systems proposed by Soebhali and Muranyi, this patient's condition was classified as type 3 penile siliconoma with a grade 4 penile skin defect.

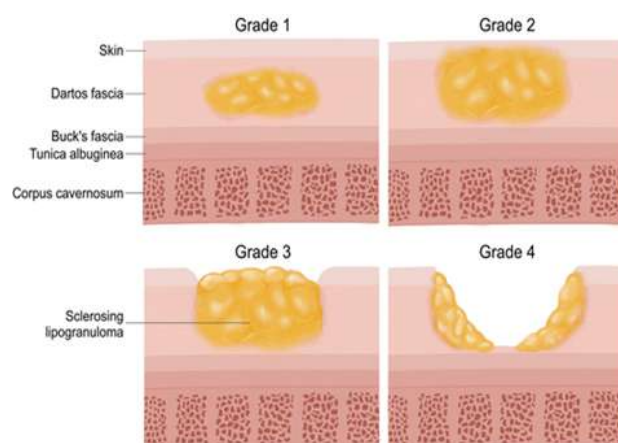


Figure 8. Categorization using grading system to evaluate the severity and extent of penile skin defect (as proposed by Muranyi et al)

The mainstay of treatment for penile siliconoma involves prompt recognition and a multidisciplinary approach to management, including surgical excision of the affected tissue followed by reconstruction of the penis. Timely surgical intervention is crucial, as delays in treatment have been associated with increased morbidity and potential loss of the entire penis [16]. In this case, the patient's prolonged delay in seeking appropriate medical care, as well as the initial mismanagement by the midwife, contributed to the worsening of his condition.

The case presented here highlights the critical importance of public education and awareness regarding the significant health risks associated with unauthorized cosmetic procedures, particularly those involving the injection of foreign substances into sensitive areas of the body [17]. Early recognition of the condition and prompt referral to a urologist or plastic surgeon experienced in the management of penile pathologies is crucial for the successful treatment of these cases [18].

Several surgical techniques exist for treating siliconoma, which can be categorized into three main types: traditional, advanced, and reconstructive. The traditional approach includes techniques such as simple excision and wide local excision. The advanced technique encompasses procedures like partial degloving and resurfacing, as well as single stage excision [19]. Lastly, the reconstructive techniques involve skin grafting, flap reconstruction, and penile reconstructive surgery [20-22].

Determining the suitable surgical techniques for penile siliconoma requires consideration of several criteria [20].

- Simple Excision: Appropriate for small, superficial siliconomas with minimal tissue involvement.
- Wide Local Excision: Indicated for larger siliconomas with deeper tissue involvement.
- Partial Degloving: Suitable for circumferential siliconomas with significant skin involvement.
- Skin Grafting: Necessary for extensive skin loss or scarring.
- Flap Reconstruction: Required for large defects needing tissue transfer.
- Penile Reconstructive Surgery: Indicated for severe deformity or functional impairment.

Conclusion

This case report illustrates the serious issues that can result from the illegal administration of unauthorized substances into the penis for cosmetic purposes. Penile siliconoma can be resulted from the illicit injection of substances like hair oil into the penis, leading to potentially devastating consequences that underscore the critical need for immediate medical attention and awareness of the risks associated with these unsupervised cosmetic interventions. Delays in diagnosis and treatment can result in progressive tissue necrosis and severe complications, as demonstrated by the presented case.

Ethical Clearance

The patient provided consent, both verbal and written, for publishing this case report and accompanying images. According to the regulations of the Chasan Boesoirie General Hospital's ethical committee, this case report did not require ethical clearance.

Conflict of interest

The authors define no conflict of interest.

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