



วารสารพยาบาลตำรวจ
Journal of The Police Nurses

การฉีดสิ่งแปลกปลอมเข้าองคชาติ แก้ไขโดยใช้คาร์บอนไดออกไซด์เลเซอร์
PENILE AUGMENTATION WITH FOREIGN MATERIAL INJECTION PENILE SHAFT,
CORRECTION BY CO₂ LASER

บันเจิต จิตาภิวัฒน์กุล

Bunjert Titapiwatanakun

พ.ต.อ.นพ.ดร., กลุ่มงานผู้ป่วยนอก โรงพยาบาลตำรวจ

Out Patient Department, Police General Hospital, Bangkok, 10330.

บทคัดย่อ

การฉีดสิ่งแปลกปลอมเข้าองคชาติเป็นค่านิยมที่ส่งสมมานาน โดยหวังผลในการเพิ่มขนาดให้ใหญ่ขึ้น และเพิ่มความยาว สิ่งแปลกปลอมที่ใช้ฉีดมีทั้ง ยางเหลว แวกส์ พาราฟินเหลว พาราฟิน บาล์ม น้ำมันพืช และซิลิโคนเหลว โดยหวังผลให้เกิดการเกาะตัวกับไขมัน (ไลโปกรานูโลมา) ในชั้นใต้ผิวหนัง ส่งผลให้มีขนาดและความยาวเพิ่มมากขึ้น แต่หารู้ไม่ว่า การเกาะตัวชั้นใต้ผิวหนังนั้นทำให้เกิดการอักเสบ บวม และเกิดการไหลเลื่อนของไลโปกรานูโลมา ส่งผลต่อการแข็งตัวขององคชาติ ทำให้แข็งตัวไม่ได้ และหากไหลเข้าสู่กระแสเลือด อาจอุดตันอวัยวะสำคัญ ทำให้ถึงแก่ความตายได้ การไหลของไลโปกรานูโลมาบริเวณองคชาติแก้ไขได้ดีที่สุดโดยการผ่าตัดออก โดยบริเวณเนื้อเยื่อที่ติดกับไลโปกรานูโลมาสามารถผ่าตัดออกได้โดยเสียเลือดน้อยที่สุดด้วยการใช้คาร์บอนไดออกไซด์เลเซอร์และผ่าตัดปิดผิวหนังด้วยเทคนิคการโยกผิวหนัง แล้วเย็บปิดแผล ผลการรักษาโดยใช้คาร์บอนไดออกไซด์เลเซอร์ ทำให้เสียเลือดน้อย และง่ายต่อการเย็บปิดแผล ส่งผลดีต่อการสมานแผลและลดระยะเวลาพักฟื้น

คำสำคัญ : การฉีดสิ่งแปลกปลอมเข้าองคชาติ, ไลโปกรานูโลมา, ซิลิโคนเหลว, องคชาติ, คาร์บอนไดออกไซด์เลเซอร์

Abstract

Throughout history, a proportion of men appear to correlate penis size and dimensions directly with physical fitness and sexual prowess. Foreign materials, such as grease, wax, paraffin oil, paraffin balm, mineral oils, and silicone, have been used to promote an improvement in penile shaft contour and dimensions. These materials are injected directly into the penis; inducing granuloma formation to achieve increased penis length and girth. However, the result is a severely disfigured and swollen penis, which cannot achieve the erection. Local complications of penile lipogranuloma include infection, ulceration, local migration leading to functional impairment. Meanwhile, systemic complications include foreign body embolization, organ infarct, and death. Penile lipogranuloma is best treated surgically. Granulomatous skin needs to be completely excised by using CO₂ Laser and wound closure with a scrotal skin flap. Our case series have shown that penile lipogranuloma, induced by subcutaneous foreign body injections into the penile shaft, removed successfully with minimal blood loss by CO₂ laser.

Keywords : penile augmentation, lipogranuloma, silicone, penis, CO₂ laser

Introduction

Throughout history, a proportion of man appear to correlate penis size and dimensions directly with physical fitness and sexual prowess. Foreign materials, such as grease, wax, paraffin oil, paraffin balm, mineral oils and silicone, have been used to improve penile shaft contour and dimensions. Injection of foreign bodies into the penile shaft to enlarge the size are still being practiced in Thailand and some ASEAN countries, mostly are done by non-medical personnel. Various dubious establishments offer treatments where foreign material is injected directly into the penis to achieve an increase in length and girth. Our case series has shown that this results in adverse outcomes to patients.

Case Report

Three Thai men aged between 30 to 55 years-old were given subcutaneous foreign body injections into their penile shafts by non-medical personnel. Two were given silicone and one was given paraffin oil. They volunteered to take the injections in a non-sterile environment, with their motivation being a larger penile size. They denied influence from their sexual partners. They began to notice abnormal reactions to their penises, about 12 months after the injection. Over this time, their penile shafts gradually became deformed, swollen, and hard. Each patient was able to achieve an erection. However, erections and sexual intercourse were painful to both the patient and their partner, due to the irregular hard lumps

around the penile shaft. In all cases, treatment was sought between three to six years after the injection.

Physical examinations showed similar changes for all three patient's penises. The penile shafts were swollen and disfigured, with irregular semi-mobile masses extending into the scrotum (Figure 1). Masses did not involve the corpus cavernosum and both testes. The overlying skin was diffusely brown with no cutaneous ulceration.

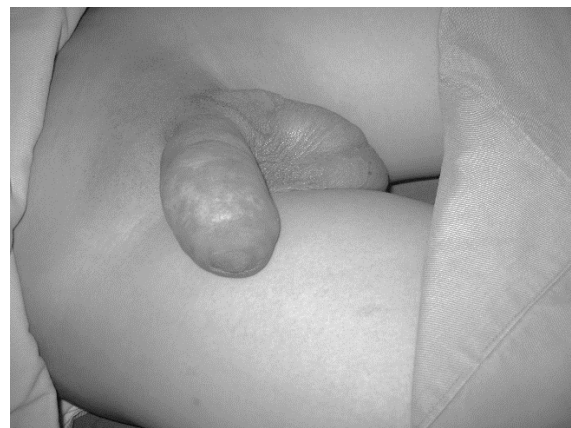


Figure 1: Pre-operative image showing grossly swollen, disfigured penis with masses. The overlying skin was diffusely brown.

After full history taking and physical examination, followed by patient counselling, the decision was made to proceed with surgical excision and reconstruction. Goal of surgical intervention contains, 1) minimizing blood loss with CO₂ laser, 2) removal of foreign body as much as possible, 3) correction of deformity, and 4) preservation of function. Full skin excision was required in these patients, because the granulomas were extensive; involving subcutaneous tissue of the penile shaft with extension into the overlying penile skin, and the fibrotic skin

and subcutaneous tissue were circumferentially excised by CO₂ Laser (Figure 2-5). Wounds were fully healed at the outpatient review, one month post-operatively. All three patients were able to achieve full erection with normal sexual intercourse with their partners after the operation. Histopathological examination results were consistent with lipogranuloma; where two were induced by silicone and one by paraffin oil (Figure 6). The section reveals numerous extracellular fat vacuoles in various sizes embedded in the fibrous connective tissue. They are alternating with scattered chronic inflammatory cells in aggregates and small amount of foreign-body type multinucleated giant cell. Histopathological analysis showed thickening of the reticular dermis and replacement of normal subcutaneous fat by lakes of oil interspersed in foreign body giant cells confirming sclerosing lipogranuloma consistent with a paraffinoma. Acid fast bacilli and mycology cultures were without growth. An excision of the suprapubic, penile, and penoscrotal paraffinoma with split-thickness skin graft phalloplasty was performed. Postoperatively the patient has a cosmetically acceptable penis with normal erections sufficient for intercourse without pain.



Figure 2: Pre-operative image showing excision site with masses beneath the skin.

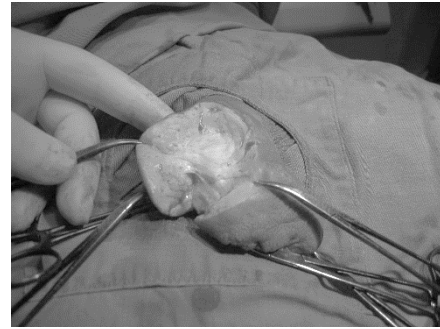


Figure 3: Intra-operative image showing the excision with no active bleeding by using CO₂ laser.

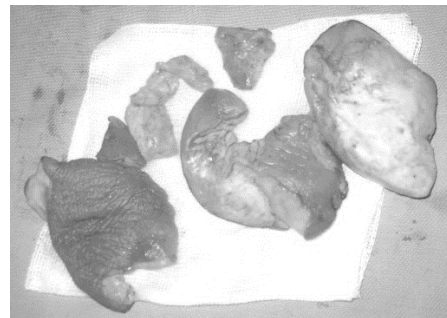


Figure 4: Image showing gross excised paraffinoma.



Figure 5: Image showing the split-thickness skin graft phalloplasty was performed.

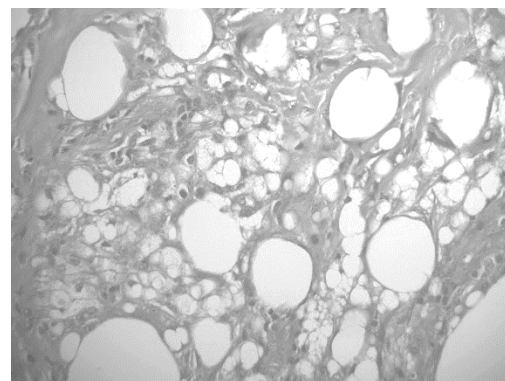


Figure 6: Histopathology, the section reveals numerous extracellular fat vacuoles in various sizes embedded in the fibrous connective tissue. They are alternating with scattered chronic inflammatory cells in aggregates and small amount of foreign-body type multinucleated giant cell.

Discussion

Currently, penile augmentations through foreign material injections are still practice worldwide by non-medical personnel; despite the severe destructive effects that have been recognized and described above. Local complications include infection, ulceration, local migration, and cavernosal invasion; which usually leads to functional impairment. Systemic complications include foreign body embolization, organ infarction, and death. Rollins et al. reported a sudden death case, secondary to disseminated lipogranulomas to the lung, causing acute severe pulmonary oedema (Rollin, Reiber, Guinea, & Lie, 1997).

A wide variety of oils, including paraffin, mineral, silicone, vaseline, motor transmission fluid, cod liver oil, and autologous fat, as well as nandrolone decanoate and mercury, have been injected into the penis with the intent of augmentation (Al-Ansari, Shamsodini, Talib, Gul, & Shokeir, 2010; Oh, Park, Kang, Kwon, & Ryu, 2007; Santos, Chaveiro, Nunes, Fonseca, & Cardoso, 2003; Steffens et al., 2000; Cohen, Keoleian, & Krull, 2002). Adverse effects from the injection of oils were reported as early as 1906 when Heidingsfeld described disfiguring subcutaneous nodules in two patients who had received paraffin injections for facial wrinkles (Heidingsfeld, 1906). Injections of oil into the genitals (penile or scrotal paraffinoma) have resulted in penile and scrotal deformity, phimosis, skin necrosis, limited erectile function or permanent erectile dysfunction, the inability to have intercourse, abscess formation, and Fournier's gangrene

(Cohen et al., 2002; Moon, Yoo, Bae, Han, Kim, & Kim, 2003; Steffens et al., 2000). Despite the long history of these adverse events, oil injections into the penis continue to be performed but are only periodically reported in the dermatology, urology, and plastic surgery literature (Cohen et al., 2002; Jeong, Shin, Woo, & Seul, 1996; Steffens et al., 2000).

Paraffinomas result from an injection of a foreign substance containing straight-chain saturated hydrocarbons, such as mineral oil or paraffin. The body lacks the enzymes to metabolize interstitial exogenous oils and consequently a foreign body reaction occurs (Hohaus, Bley, Köstler, Schönlebe, & Wollina, 2003). Patients commonly present with penile deformity as the oil and subsequent granuloma have the unrestricted ability to spread beyond normal anatomical planes of the genitals (Jeong et al., 1996). The foreign body reaction manifests in the form of inflammation and induration, edema, scarring, necrosis, deformity, ulceration, painful erections, and, eventually, the inability to achieve sexual activities (Hohaus et al., 2003; Jeong et al., 1996; Moon et al., 2003; Steffens et al., 2000). Reactive region lymphadenopathy and gross deformity may lead to clinical confusion with a misdiagnosis of neoplasia and often warrants biopsy (Lawrentschuk, Angus, & Bolton, 2006; Sahin et al., 1991). These clinical changes may be gradual as paraffinomas can occur several months to years after the injections (Cohen et al., 2002). In patients who are reluctant to admit they have undergone penile injections, the diagnosis may be clinically challenging. Sclerosing lipogranuloma is used to describe histopathological

features including the substitution of normal subcutaneous tissue by cystic spaces of oil. These spaces appear as empty cysts when stained by hematoxylin and eosin. Dense fibrous tissue and granulomatous chronic inflammatory cells, including foreign-body giant cells, encircle these lakes of oil (Cohen et al., 2002)

Granuloma formation is caused by a natural host response to walled off exogenous substances with multinucleated giant cell and chronic inflammatory cells. However, they are too large to be broken down naturally. Immunological and inflammation reaction, induced by silicone and paraffin oil, are similar; as shown in our case series. Granulomatous and fibrotic reactions occur in the subcutaneous fat from the injection of silicone or mineral oil. This is known as lipogranulomas, due to the recipient tissue involved. Physically, the lipogranulomas appears as firm, disfiguring subcutaneous masses, with surrounding skin fibrosis, and thickening. The patients were told that this expected augmentation would be a result of immunological reaction. However, the actual outcome was disastrous, resulting in a severely disfigured and swollen penis, which was unable to achieve erection.

The main aim of treatment is to restore penis function, as a conduit for bodily fluids and as a sexual organ; with an acceptable cosmetic appearance. The medical treatment of sclerosing lipogranuloma involves the use of antibiotics and topical and/or systemic steroids. Corticosteroid therapy is effective in treating primary sclerosing lipogranuloma (Lawrentschuk, Angus, & Bolton,

2006). However, for foreign body induced lipogranuloma, no corticosteroid treated cases have been reported.

Penile lipogranuloma is best treated surgically. Granulomatous skin needs to be completely excised. CO₂ laser play a major role in lipogranuloma excision due to minimal blood loss. Primary closure offers the best cosmetic and functional outcome, but is usually impossible, due to the large defect size. Wound closure using a scrotal skin flap, Cecil's inlay operation, and a Split thickness Skin Graft (SSG), are the more commonly used options (Lee, Choi, Lee, & Lee, 1994).

Penile augmentation using foreign body injections can be a misleading concept that has been capitalised by unethical practices. From case series reported worldwide, the majority of foreign body injections were performed by non-specialist personnel. For this reason, we should increase public awareness on the detrimental effects of such injections. In an ideal world, strict legal action would limit unethical procedures taking place, but this calls for continuous widespread education and enforcement from various organizations.

References

- Al-Ansari, A. A., Shamsodini, A., Talib, R. A., Gul, T., & Shokeir, A. A. (2010). Subcutaneous cod liver oil injection for penile augmentation: review of literature and report of eight cases. *Urology*, 75, 1181-1184.
- Cohen, J. L., Keoleian, C. M., & Krull, E. A. (2002). Penile paraffinoma: Self-injection with mineral oil. *Journal of the American Academy of Dermatology*, 47, S251-S253.

- Heidingsfeld, M. L. (1906). Histopathology of paraffin prosthesis. *Journal of Cutaneous Diseases*, 24, 513–521.
- Hohaus, K., Bley, B., Köstler, E., Schönlebe, J., & Wollina, U. (2003). Mineral oil granuloma of the penis. *Journal of the European Academy of Dermatology and Venereology*, 17, 585–587.
- Jeong, J. H., Shin, H. J., Woo, S. H., & Seul, J. H. (1996). A new repair technique for penile paraffinoma: bilateral scrotal flaps. *Annals of Plastic Surgery*, 37, 386–389.
- Lawrentschuk, N., Angus, D., & Bolton, D. M. (2006). Sclerosing lipogranuloma of the genitalia treated with corticosteroids. *International Urology and Nephrology*, 38, 97–99.
- Lee, T., Choi, H. R., Lee, Y. T., & Lee, Y. H. (1994). Paraffinoma of the penis. *Yonsei Medical Journal*, 35(3), 344–348.
- Moon, D. G., Yoo, J. W., Bae, J. H., Han, C. S., Kim, Y. K., & Kim, J. J. (2003). Sexual function and psychological characteristics of penile paraffinoma. *Asian Journal of Andrology*, 5, 191–194.
- Oh, K. H., Park, K., Kang, T. W., Kwon, D. D., & Ryu, S. B. (2007). Subcutaneous metallic mercury injection for penile augmentation. *Urology*, 69, e3–e4.
- Rollin, C. E., Reiber, G., Guinee, D. G., & Lie, J. T. (1997). Disseminated lipogranuloma and sudden death from self-administered mineral oil injection. *American Journal of Forensic Medicine and Pathology*, 18(1), 100–103.
- Sahin, A., Tekgül, S., Ergen, A., Basar, I., Dilek, H., & Ruacan, S. (1991). Sclerosing lipogranuloma of the penis. A case report. *International Urology and Nephrology*, 23, 595–598.
- Santos, P., Chaveiro, A., Nunes, G., Fonseca, J., & Cardoso, J. (2003). Penile paraffinoma. *Journal of the European Academy of Dermatology and Venereology*, 17, 583–584.
- Steffens, J., Kosharsky, B., Hiebl, R., Schönberger, B., Röttger, P., & Loening, S. (2000). Paraffinoma of the external genitalia after autoinjection of vaseline. *European Urology*, 38, 778–781.