

Low-grade liquid silicone injections as a penile enhancement procedure: Is bigger better?

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Abstract

To report our experience with 5 cases of complications of penile enhancement procedures secondary to liquid silicone injections and our method of management of its debilitating effects. All five patients were treated with excision of penile shaft skin down to buck's fascia followed by resurfacing with split thickness skin grafting. We conclude that penile enhancement procedures with liquid silicone by non-medical personnel could result in devastating consequences. We also demonstrate that a simple method of excision of the entire penile shaft skin and resurfacing with split skin grafting showed improvement in cosmetic as well as functional outcome.

Key Words: Liquid silicone, penile enhancement, penile silicone granuloma

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INTRODUCTION

Penis size has been a source of anxiety for men throughout history, and still today, men often feel a need to enlarge their penises in order either to improve self-esteem or to satisfy and impress their partners. This anxiety has been found to transcend ethnicity and cultural barriers. Sadhus, holy men of India and male of Cholomec tribe in Peru used weights to increase their penile lengths. Males of the Dayak tribe in Borneo resorted to self mutilation by forming holes on their penises and then sticking decorative items through them for their partner's pleasure. Brazilians of the Topinama tribe allowed poisonous snakes to bite their penises in order to enlarge them.^[1]

Men in some areas of Indonesia, the Philippines, Thailand, and Malaysia have a long history of inserting or implanting

various objects in their penises. The origin of these practices is unclear, but some writers say that they were copied from Chinese traders who visited Southeast Asia, while others argue that it is an indigenous innovation. The implant objects range from the very simple, e.g., ball bearings sewn under the skin, to the elaborate, e.g., semiprecious stones, gold bars, or rings inserted through the glans.^[2]

Several documented papers have described the cultural-historical adventures of the male organ. "The bigger the better" appears to be the motto for more than a century and being too small is still regarded as very humiliating in many cultures. These stigmas of apparently small penises, as well as the increasing influence of the media on sexual issues have increased the demand for penile enhancements. The majority of men who request penile enhancement surgery usually have a normally sized and normally functioning penis. These patients interpret normal appearances as abnormal, and as such are distressed and depressed. Indications for penile enhancement surgery are poorly defined, and outcome measures for success are still unclear. Nonetheless, due to a huge demand, these procedures are commonly performed in Malaysia by unscrupulous shamans. Here, we present our experience with patients' post-penile enhancement with liquid silicone.

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CASE REPORTS

Case 1

The first case was a 62-year-old businessman, married with five children. He has a background history of diabetes mellitus on oral hypoglycemics. Patient was admitted with a diagnosis of penile lymphedema and was planned for excision and split thickness skin grafting of the penile shaft. He gave a history of being injected with silicone oil by a “traditional healer” 3 years ago. The patient experienced prepuce swelling which started 4 to 5 days later, especially on erection. The condition progressively worsened over the next 6 months with gross enlargement of the penis affecting sexual function. Patient did not complain of any difficulty in micturition.

Circumferential excision of the penile shaft skin down to buck's fascia was done extending from the base of the corona down to the base of the shaft. All fibrotic tissue was removed and split thickness skin graft harvested from the thigh was applied to the area [Figures 1-4]. Postoperative period was

uneventful and patient was discharged home on postoperative day 5. The histopathology report confirmed the presence of foreign body granulomatous inflammation. On microscopic appearance, there were foamy macrophages and foreign-body-type multinucleated giant cells. On review, the split skin grafting site had taken well and patient was happy with the outcome and was sexually active again. He is currently still under follow up.

Case 2

A 37-year-old factory employee presented with scarring and thickening over the proximal half of the penile shaft. The patient gives a history of foreign body injection into the penile shaft 2 years ago while working abroad. The following year, he had developed repeated ulceration over the penile shaft which eventually healed with scarring. He is single, smoker, and social drinker with history of unprotected intercourse. He was diagnosed to have penile shaft fibrosis secondary to foreign body injection.

The patient subsequently underwent excision of the penile shaft and suprapubic foreign body with split thickness skin graft

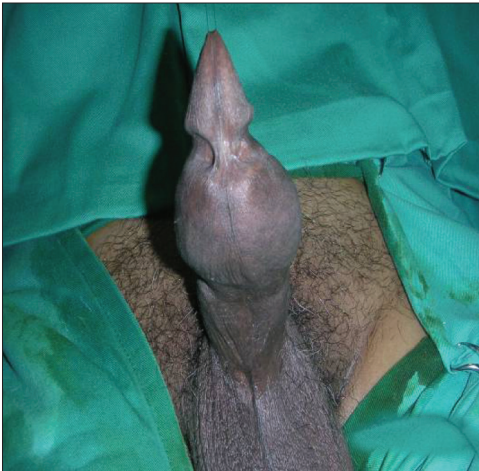


Figure 1: Prepuce swelling post silicone injection



Figure 2: Post excision of penile shaft skin down to Buck's Fascia

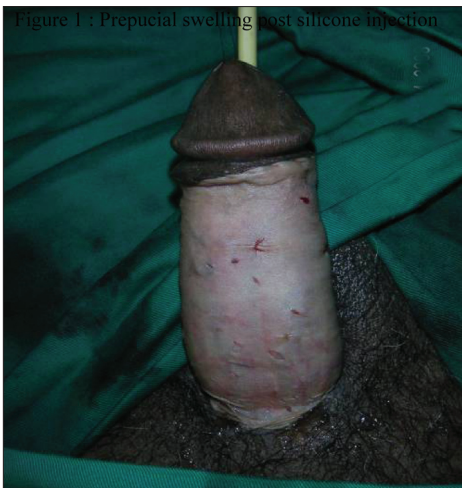


Figure 3: Application of split thickness skin graft



Figure 4: Post op 1 week with 100% take of skin graft

application. Excision was done from the base of the glans to the base of the penile shaft down to the level of tunica vaginalis. On excision, we noted yellowish foreign body embedded in the excised tissue. Split thickness skin graft was harvested from the right thigh and secured to the defect on the penis. On postoperative day five, we noted that the skin graft had taken 100% and there were no inherent complications to the wound. He was discharged well. He is currently under follow up with our clinic and has been advised scar massage.

Case 3

A 32-year-old welder, married with four children presented with infected skin graft over the penis shaft. History obtained from patient was that he sustained a small burn wound to his genitalia while welding 2 years ago, which developed into an infected wound. He subsequently underwent wound debridement and skin grafting of the penile shaft skin. According to the patient, the skin graft had taken well but patient had defaulted treatment and had sought traditional medication. He was noted to have

an infected skin graft around the penile shaft with slough and eschar with bilaterally enlarged inguinal nodes [Figure 5].

Patient had undergone wound debridement of penile shaft skin circumferentially from the base of the glans to the base of the shaft [Figure 6], and subsequently split thickness skin graft was applied over the defect [Figures 7 and 8]. Tissue sample sent for culture and sensitivity showed growth of *Acinetobacter* species which was found to be sensitive to the prophylactic antibiotics. Antibiotic regime was continued for a period of 7 days postoperatively. Histopathology specimen sent was diagnosed as chronic granulomatous inflammation with foreign body granuloma. Five days postoperatively, the skin graft had 100% take, patient was afebrile and well with no evidence of localized or systemic infection. On postoperative day 6, however, it was noted that the take of the skin graft was 98% and a week later, the areas of nonviable skin was debrided under local anesthesia and patient was discharged home on daily dressing, as he had requested to go home. Patient is still on follow up.

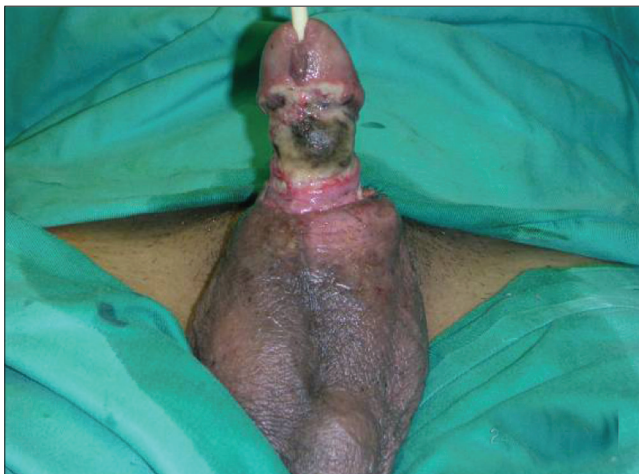


Figure 5: Chronic inflammatory reaction post liquid silicone injection



Figure 6: Post debridement down to Buck's fascia



Figure 7: Split thickness skin graft applied to penile shaft. Post op day 5- (Ventral aspect penile shaft)



Figure 8: Split thickness skin graft applied to penile shaft. Post op day 5- (Lateral aspect of penile shaft)

Case 4

A 33-year-old male presented with penile shaft soft tissue swelling for 10 years. He gives a history of traumatic injury in an alleged motor vehicle accident. Patient was riding a motorcycle when it hit the back of a car causing the trauma. There was a swelling post-injury which he managed himself by self-massage and did not seek medical attention. There is no problem with micturition and erection. Patient denied foreign body injection of the penis and requested surgery as it was uncomfortable for him to wear jeans. Examination revealed a generalized swelling of the penile shaft skin with fibrotic thickenings over the base of the penis. He was diagnosed as a case of penile lymphedema [Figure 9] and underwent excision of penile shaft skin and simultaneous skin grafting of the penile shaft [Figures 10-12].

Post operative period was uneventful and patient was discharged home on day five. On review five weeks later, there was 100% SSG take with much reduction of edema and patient was able

to wear jeans. He was advised massage with olive oil and is still under follow up.

Case 5

A 44-year-old contractor presented to us with lumpy swelling on penile shaft. He gave a history of silicone injection by a traditional medicine practitioner 2 years ago for erectile dysfunction and had experienced swelling over the injected site. He had no problems in micturition; however, there were recurrent episodes of ulceration and serous discharge from the site. He is married with four children and has a background history of hypertension on tablet atenolol. The patient was diagnosed as a case of foreign body granuloma post-silicone injection and was planned for operative intervention; however, patient defaulted treatment.

DISCUSSION

What motivates the practice of foreign body insertion into the genitalia? Moon *et al.* on studying the sexual, emotional,



Figure 9: Penile granuloma post liquid silicone injection

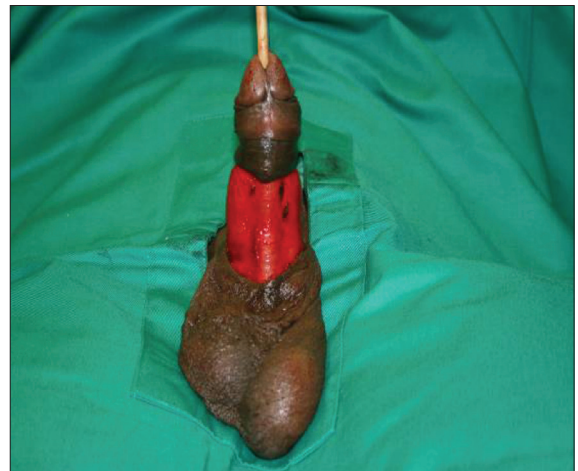


Figure 10: Post excision of penile skin down to Buck's. Fascia from subcorona to base of shaft of penis



Figure 11: Excised penile granulomatous tissue

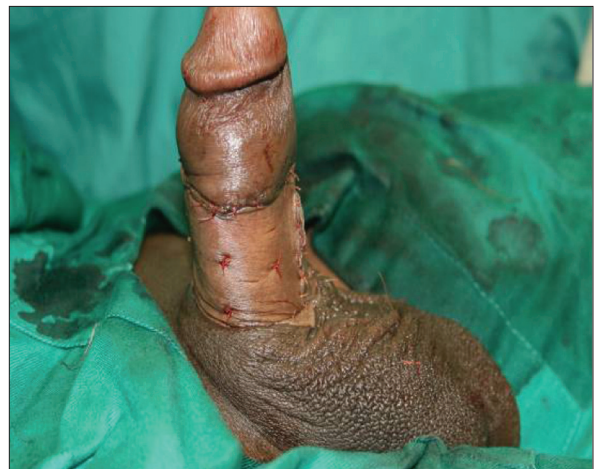


Figure 12: Post application of split thickness skin graft.

and psychological status of men who augment their penis assessed the motivation, method of penile injection, changes in erectile function, and satisfaction after penile injection through questionnaires.^[3] A total of 357 men completed the questionnaire. The first-ranked motivation of the injection was recommendation by their acquaintances (48.9%). The majority of the respondents had the procedure by nonmedical person (78.0%). Before injection, 17.2% had a sense of inferiority in their penis and 32% worried about their weak erectile function. After injection, 33.0% have found relief from their sense of inferiority and 17.8% wish to feel improvement in their erectile function. Most of the respondents (91%) were not satisfied with their penis and 74% of them replied that they want to remove the injected material. Only 15.6% did not experience side effects. Most of the subjects have suffered from various side effects such as inflammation, skin necrosis, pain, etc. No evidence of psychiatric pathology was found in psychological evaluation. We did not assess our patients on the emotional and psychological aspects of their behavior. All of our patients were influenced by their friends or acquaintances. We can safely conclude, however, that at least three of the five patients had the procedure done by a nonmedical person. All our patients were not satisfied with their penis postinjection and wanted it removed. Moon *et al.* concluded that increased public awareness is needed for the prevention of this physically and psychologically debilitating problem.

In a study by Pehlinavov *et al.*, the clinical and epidemiological profile of patients with penile insertion of foreign bodies were evaluated and the significance of social motivation in 25 heterosexual patients who visited his clinic from 1995 to 2005 were assessed.^[4] The age of peak incidence of patients with penile FBG was 28 years. The youngest patient was 19 years. Twenty-three (23 of 25, 92%) of the patients were from gypsy origin, and two men were of Bulgarian origin. All the patients had risky social behavior (prisoners and beggars). The motivation of 20 (20 of 25, 80%) of the patients was to enlarge the penile size. Fifteen (15 of 25, 60%) wanted to increase the feelings of the sexual partners. The majority of the patients (23 of 25, 92%) had injection of fatty substances, and two (2 of 25, 8%) had undergone implantation of a plastic pellet. In 14 cases (14 of 25, 56%), the insertion of mineral oil was complicated by formation of fistulas and wide ulcers with histological features of FBG. In our patients, one patient exhibited characteristics of a risky social behavior, whilst the others were married with children and one was single with a steady girlfriend. A detailed life style profile was not collected from our patients as it was not found to alter management of the condition; however, it would be interesting to unfold the reason behind this behavior to increase the effectiveness of an awareness and preventive program.

Lever *et al.*, on studying the views about penis size in an internet survey of 52 031 heterosexual men and women, found that most men (66%) rated their penis as average, 22% as large, and 12% as small. Self-reported penis size was correlated positively with height and negatively with body fat level. Although 85% of women were satisfied with their partner's penis size, only 55% of men were satisfied with their penis size, 45% wanted to be larger, and 0.2% wanted to be smaller. Satisfaction did not vary across age groups from 18 to 65 years. Men reporting a larger-than-average penis rated their appearance most favorably, suggesting a possible confidence effect of perceived large penis size.^[5] The study suggests that almost half of the male population desires to be bigger and a large majority of women were satisfied with the size of their partners' penis. It also suggests a positive correlation of penis size with anthropometric measurements and negative correlation with amount of body fat.

In a study concerning women's view on the size of the male genitalia by Francken *et al.*, 20% of women found the length of penis important and 1% very important; 55% and 22% found the length unimportant and totally unimportant, respectively. Length however was found to be less important than girth. The study was conducted on 375 sexually active women who had recently given birth at University Hospital Groningen, The Netherlands. Response rate was 45%. Although clearly a minority, a significant amount of women placed importance on the size of the male genitalia.^[6] It seems apparent that penis size is more a preoccupation of the male gender. In a study by Shamloul of 92 patients complaining of short penis, 54 (59%) related their problem's onset to childhood, when they began comparing their penis with that of their friends. Only 38 men (41%) related the onset of this problem to adolescence when they began watching erotic films and magazines.^[7]

Currently available techniques for girth enhancements are broadly divided into the following: (i) injectables and (ii) grafts. Materials commonly used for injections are fat, silicone, and hyaluronic acid. Fat grafting involves collecting abdominal fat and subsequent injection into the dartos fascia. The advantage of this technique is that it does not involve surgery and procedure can be repeated to obtain an ideal result. However, fat grafting of the penis is plagued with complications such as deformities or curvature due to formation of nodules or calcified fat. Too much fat injected can impair erection and may lead to a lumpy appearance.

Silicone or LIS (liquid injectable silicone) use for penile enhancement has been described.^[8] However, its use has not been recommended due to development of horrendous complications, some due to large volumes being injected,

while others were related to implant migration, swelling, penile distortion, and late granulomatous reaction.

The term “silicone” was introduced in the early 20th century by Kipping, a British chemist who produced the early precursors to the thousands of silicone-containing materials used today. At the time, he did not appreciate any practical use for his discovery till the 1940s, when Dow Corning produced DC-4 for use as lubricants in military bombers. The 40s also witnessed the use of silicone in human beings for cosmetic improvement. By the 1960s, misuse was rampant with large volumes of pure and adulterated forms of silicone being injected with subsequent complications. The state of Nevada criminalized its use in 1964. The controversy that surrounded breast implants led to the demonization of injectable silicone as well.^[9]

The immunological response to purified liquid injectable silicone is currently unknown. It is known that all foreign bodies elicit an immunological response and that granulomas maybe a generic response to foreign materials. Silicone appears to be nonantigenic but they are not biologically inert. Silicones undergo biological oxidation to silica and become incorporated into the reticuloendothelial system. It is anticipated that molecular biologic techniques will facilitate an understanding of the roles of contaminants, volume injected, and potential impact of infectious and inflammatory processes on injected liquid silicone once it has been injected.^[10]

Current practice of silicone injection is by the microdroplet technique, whereby 0.01 to 0.03 cc is deposited subcutis 2 to 10 mm apart with any 1 cc syringe with a luer lock system. Current indications for use are as fillers for flexible acne scars, the glabella, nasolabial folds, marionette folds, and cheek hollows. Chin and cheek bones are also amenable to treatment with silicone. There is an ongoing phase II clinical trial for the use of SilSkin for the treatment of nasolabial creases and human immunodeficiency virus-associated lipoatrophy.^[10]

All of our patients who went through with reconstruction had excision down to Buck’s fascia with the application of a split thickness skin graft and this seemed to be satisfactory

in terms of form and function. An affordable and cheap alternative to penile enlargement lured our patients into succumbing to such practices by nonmedical personnel which resulted in gross distortion and sexual dysfunction. Even though safe and reliable, the possibility of skin graft contraction may eventually lead to shortening of the penile shaft. However, evidence of such an effect in our patients remains to be seen. It seems imperative that further education regarding the safety of use of silicone in the hands of the untrained needs to be addressed to prevent further such complications.

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