Introduction

As obesity increases in the United States, the concomitant issue of buried penis affects a growing number of men. The phallus is hidden by surrounding fat tissue whereby even a normal length penis becomes barely visible. Other causes include aggressive circumcision and progressive skin retraction related to recurrent infections as a result of poor hygiene [1]. True phallic shortening may occur in concert with tissue concealment; etiologies include aging, diabetes mellitus, other iatrogenic surgical complications, and congenital buried penis [2]. Penile shortening has been reported multiple times as a complication of radical prostatectomy, androgen deprivation, and radiation therapy [3, 4]. Penile dysmorphic disorder can lead to depression, low self-esteem, and further negatives effects on the male libido and erectile function, thus creating a negative spiral [1, 5].

Methods

We conducted a retrospective chart review of six adult (≥18 years of age) patients who had a minimum follow-up time of 3 months after undergoing penile prosthesis placement with immediate buried penis correction. Figure 1A shows an image of a patient’s buried penis secondary to a gynecoid mons before surgery. All patients met the general fitness guidelines that are required for surgical procedures, such as no current tobacco use and A1c haemoglobin level <8%. Patient charts were reviewed and dependent variables were recorded, including age and comorbidities. Operative and postoperative notes were used to obtain complications during and after surgery. Only one patient had a minor complication, a postoperative wound infection.

Surgical Approach

The patient was placed in the frog-leg position. We performed a modified ventral phalloplasty by cutting an inverted ‘V’ shaped dartos sparing incision with its apex just off the scrotal insertion of the penis and then flared out away from the penile shaft. After the dartos was opened in the midline, the Coloplast Genesis® (Coloplast, Minneapolis, MN) malleable penile prosthesis (per patient preference over an inflatable implant), bathed in rifampin and gentamicin antibiotics, was placed within dilated corporal bodies. The corpora and the dartos were placed within dilated corporal bodies. The corpora and the dartos were placed within dilated corporal bodies.
then closed with absorbable suture in several layers over the implant. The phalloplasty was completed by first approximating the skin of the penile shaft until the closure felt snug, then bringing in the apex of the initial cut and closing the remaining skin laterally, creating an inverted Y shape. The apex of the incision was located inferiorly along the shaft so that the penoscrotal insertion was lowered, thus exposing more of the phallus.

Figure 1: A) Preoperative, B) Tissue removed, C) 12 months postoperative.

Once the scrotal incision was closed, the plastic surgery team then made a second incision along the infra-abdominal skin crease and down to the long inguinal region and up around the dorsal aspect of the phallus. A gynecoid monsectomy was performed (Figure 1B). Careful attention was paid not to injure the spermatic cords. The monsectomy provided excellent exposure for the penile suspensory ligament release. Undermining of the superior adipocutaneous flap was performed to facilitate closure which was performed with absorbable suture in two layers over a closed suction drain.

Results

Six male patients underwent a buried penis correction with immediate penile prosthesis placement. The mean age of the patients at the time of the procedure was 69-year-old. Two patients had diabetes mellitus and one patient reported being a previous smoker. The average hospital stay was 11 days, and the average follow-up length was 5 months (range, 3 to 8 months). There was only one minor complication, a post-surgery wound infection. Figure 1C shows a patient's phallus 12 months post-surgery. This patient’s penile length increased by 1.9 cm to 14.1 cm. Figure 2A shows a patient’s phallus before surgery 12.2 cm. Figure 2B shows the same patient immediately after surgery. There is an immediate obvious change in the length of the phallus. However, some swelling is noted. Figure 2C shows the same patient 12 months after surgery. The swelling has resolved, and the phallus has increased to 15.1 cm. The average difference between the pre-operational and post-operational flaccid length of our six patients was 3.5 cm ± 1.38 (range, 1.9 to 5.08 cm). All six patients reported being “very satisfied” with their cosmetic outcome and able to have penetrative sexual intercourse.

Figure 2: A) Preoperative, B) Immediately postoperative, C) 12 months postoperative.

Discussion

The surgical objective is to excavate the penis to expose the glans and give as much length to the shaft as possible. After the suprapubic lipectomy, performing a penile suspensory ligament resection is easier because the area is fully exposed. In a study of 42 patients who underwent a division of the penile suspensory ligament, the mean increase was 1.3 cm with a maximum increase of 3 cm in length [6]. In an evaluation of 355 cases, the average difference between baseline to 12 months after surgical procedure was 2.6 cm [7]. Even though we need a larger cohort study, our average phallus length increase, 3.26 cm, is promising. Ventral phalloplasty has been used to enhance patients’
perception of penile length and improve overall satisfaction. In our modified technique, the phalloplasty achieves equal exposure but with a theoretically decreased risk of skin breakdown at the highest tension point as seen in a traditional phalloplasty. We present these cases illustrating the single-stage combination of penile prosthesis placement and buried penis correction. These techniques improve not only patients’ physical appearance but also their psychological satisfaction and lead to a greater quality of life. We feel that this technique can be safely executed with the use of perioperative antibiotics and closure of the scrotal incision before the gynecoid mons resection.

Acknowledgement

None.

Conflicts of Interest

None.

REFERENCES

1. Alter GJ, Salgado CJ, Chim H (2011) Aesthetic surgery of the male genitalia. *Semin Plastic Surg* 25: 189-195. [Crossref]
2. Pestana IA, Greenfield JM, Walsh M, Donatucci CF, Erdmann D (2009) Management of “buried” penis in adulthood: an overview. *Plastic Reconstr Surg* 124: 1186-1195. [Crossref]
3. Savoie M, Kim SS, Soloway MS (2003) A prospective study measuring penile length in men treated with radical prostatectomy for prostate cancer. *J Urol* 169: 1462-1464. [Crossref]
4. Haliloglu A, Baltaci S, Yaman O (2007) Penile length changes in men treated with androgen suppression plus radiation therapy for local or locally advanced prostate cancer. *J Urol* 177: 128-130. [Crossref]
5. Spyropoulos E, Christoforidis C, Borrousas D, Mavrikos S, Bourounis M et al. (2005) Augmentation phalloplasty surgery for penile dysmorphophobia in young adults: considerations regarding patient selection, outcome evaluation, and techniques applied. *Eur Urol* 48: 121-127. [Crossref]
6. Li CY, Kayes O, Kell PD, Christopher N, Minhas S et al. (2006) Penile suspensory ligament division for penile augmentation: indications and results. *Eur Urol* 49: 729-733. [Crossref]
7. Littara A, Melone R, Morales Medina JC, Iannitti T, Palmieri B (2019) Cosmetic penile enhancement surgery: a 3-year single-centre retrospective clinical evaluation of 355 cases. *Sci Rep* 9: 6323. [Crossref]