Research

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Journal of Aesthetic & Reconstructive Surgery
ISSN 2472-1905

2018
Vol.4 No.2:13

DOI: 10.21767/2394-9988.100047

Cosmetic Penile Augmentation Surgical Techniques with BellaDerm Graft

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Received date: October 20, 2018; **Accepted date:** November 13, 2018; **Published date:** November 20, 2018

Citation: Krakovsky AA (2018) Cosmetic Penile Augmentation Surgical Techniques with BellaDerm Graft. J Aesthet Reconstr Surg. Vol 4 No. 2: 13.

Abstract

Introduction: Penile cosmetic augmentation surgery (cosmetic phalloplasty) is available in the cosmetic surgery field for about a quarter of century to enlarge penis length, girth, and glans of a man's penis. This article describes penile cosmetic surgery augmentation (phalloplasty surgical techniques) using BellaDerm graft.

Materials and methods: A total of 315 phalloplasty surgeries using BellaDerm graft were analyzed for this article. These surgeries were performed by the author during 15-year in multiple surgery centers in California, USA. BellaDerm is a graft that is a type of scaffolding or framework (matrix) that exists in human skin. This framework creates a place where cells and blood vessels can create new tissue. BellaDerm graft serves as a framework to support cellular repopulation and vascularization of the patient's own tissue. It's also performed penile augmentation based on the initial graft thickens. In cosmetic penile augmentation surgery, BellaDerm graft is used to enhance the girth and/or glans of the penis during cosmetic penile augmentation surgical procedures.

Results: 63% percent of the patients, who underwent penile cosmetic augmentation surgery with BellaDerm graft, participated in postoperative survey. 89% of these patients reported great satisfaction with cosmetic penile augmentation surgery with BellaDerm graft.

Complications: Infection, that required medical and surgical treatment, developed in 17 (5.4%) of these patients. All patients were cured from infection after graft removal and 2 weeks of continuous treatment with general and local antibiotics administered through the drain. All 17 patients were successfully signed off from the treatment with subsequent instructions regarding continuity of care. 9 patients were on anabolic steroids (anabolic steroids compromised post-surgical wound healing); 6 patients violated post-surgical protocol having been engaged in early sexual activity that lead to the skin separation on sub-coronal incision and let the wound open. 8 patients smoked heavily (chain smokers) and they did not disclose this matter before surgery. 24 patients (7.6%) reported post-surgical retraction that was successfully treated medically and surgically.

Discussion: In 2002, the American Academy of Phalloplasty Surgeons established national and international standards for male cosmetic augmentation surgery, including the identification of indications, operative strategies, surgical techniques, and the assessment of results. These standards have been in effect for 15 years. When qualified surgeons, who completed education and training provided by the American Academy of Phalloplasty Surgeons have followed AAPS guidelines, these surgeries have become successful. Yet, despite successful physical results, the subjective evaluation of aesthetic results and the ethical implications of male cosmetic augmentation surgery continue to be debated.

Conclusion: This article represents retrospective evaluation of patients who have undergone cosmetic penile augmentation surgery with BellaDerm graft. The study reported high satisfaction rate with this surgical technique for penile augmentation (Penile Dual and Triple Augmentation TM) developed, patented, and used by the author of this article.

Keywords: Cosmetic penile augmentation; Surgical techniques; BellaDerm graft

Introduction

In nova days many men would like to undergo cosmetic penile augmentation surgery (cosmetic phalloplasty) to enhance the length, girth, and glans of their penises [1-15]. Unfortunately, despite of many years of successful surgeries, there is no acceptance of this procedure by our society. It is well known that some of these procedures are permanent, and some are non-permanent, or temporary. After implementing new techniques developed and patented by the author, complications from penile augmentation surgery using permanent grafts have been, for all practical purposes,

eliminated in most patients [16-22]. The dermal graft, or DFG (a graft made from the patient's own skin), AlloDerm® (the grafts created from cadaver skin) and BellaDerm® (the graft created from live donor) are the only types of grafts that offer almost permanent cosmetic penis augmentation.

Non-permanent (temporary) penile augmentation surgery is an augmentation procedure that uses fat (Free Fat Transfer, or FFT). Today, fat injection has been modified and now it is representing as a "LP graft" or "PRP graft" augmentation technique. In fact, this is just another marketing tool promoting the same temporary penile augmentation injections. This type of penile augmentation, such as FFT, has more complications as compared to skin grafts [3-13]. These complications included but not limited to deformation of the penis, such as lumps, bumps and clamps on the penile shaft which must be treated surgically. FFT penis augmentation has short temporary benefit of augmentation. Therefore, this augmentation requires periodic additional fat injections to maintain the penile girth gained from the first procedure.

It is important to highlight that there is no medical insurance company in the United States that offers malpractice insurance coverage for doctors using fat injections for penile augmentation purpose. In addition, patients who seek penile reconstruction surgery after they have experienced complications from fat injections, represent the largest segment of cosmetic penile reconstruction surgery patients in the United States. In fact, cosmetic penile reconstruction surgery is very difficult surgical procedure and it is also very expensive. However, doctors still offer "cheep" penile augmentation using fat and other types of injection.

This article analyzed, in retrospect, permanent phalloplasty surgical procedures with BellaDerm graft currently in use. These procedures can be divided into two categories: single augmentation and combination augmentation.

Single cosmetic penile augmentation surgery refers to one of three procedures: penile lengthening, penile widening, and penile glanular enhancement surgeries. In this article, single augmentation surgery includes penile girth enhancement surgery (widening) only.

Combination cosmetic penile augmentation surgery includes Penile Dual Augmentation TM (lengthening and girth enhancement surgeries combined) and Penile Triple Augmentation TM (lengthening, girth enhancement, and glanular enhancement surgeries combined).

These phalloplasty techniques provide cosmetic solutions for patients who are dissatisfied with the natural size of their penises and related physical characteristics, even though, as previously mentioned, many of these patients have a penis within the normal range of size.

What is AlloDerm graft? AlloDerm® is a product of Life Cell Corporation in **Figures 1-9**. It is an acellular tissue regeneration matrix. Donated cadaver human skin (tissue) is processed to remove human cells through a patented method, while preserving and stabilizing the remaining structure (matrix) of the dermis. This resulting framework (comprised of collagen, elastin, protein, hyaluronic acid, proteoglycans, and fibronectin) is used as a graft to support cellular repopulation and regeneration [3-19]. In phalloplasty surgery, the AlloDerm graft is used to enhance the girth and/or glans of the penis in the male cosmetic surgical procedures (phalloplasty).

Why AlloDerm/BellaDerm grafts? There are several reasons why a patient might prefer AlloDerm/BellaDerm grafts to DFGs **Figure 9**. One advantage of AlloDerm/BellaDerm graft over DFG (dermal fat graft) is that the patient does not need to provide grafts from his own body, thereby avoiding potential complications and discomfort of additional incisions and accompanying healing process. A second advantage is the avoidance of unsightly residual scars. A third advantage is time; when time needed to take grafts from the patient's body is eliminated, the time required for the surgical augmentation procedure itself is significantly reduced [18].

What is a DFG? Dermal Fat Graft was first used for penile augmentation surgery about 25 years ago, as a composite skin graft [5-9]. DFG is created by peeling away the epidermis, or top layer of the skin, along with all hair follicles, and preserving fat that attached to the dermis. In other words, DFG is the graft that contains dermis along with its attached fat. This attached fat gives DFG "dermal fat graft" its name and distinguishes it from free fat graft (FFG) that attached to nothing [10]. The chance of DFG rejection by the body is practically nonexistent because the graft comes from the patient's own body. Scarring in the harvested site of the body is also usually minimal and almost invisible in a year but it is very painful and uncomfortable after surgery.

What is BellaDerm graft? BellaDerm® is a product of MTF Corporation. To create BellaDerm graft, donated human skin from live donor (usually during tummy tuck or body lift surgeries) is processed to remove human cells (especially the epidermal and dermal cells) using the company's patented method, while preserving the structure (matrix) of the dermis.

The process of creating BellaDerm graft involves several steps. First, a skin graft is obtained from a live donor during surgery. Usually, this tissue obtaining from a person with excess skin in the upper and/or lower abdominal area following weight loss or during abdominoplasty surgery. The donor must agree that the donated tissue can be used for plastic surgery procedures. Second, the graft is evaluated using MTF's superior VanGuard Method™. If the tissue passes VanGuard testing, then it is cleaned, processed, and sterilized, using MTF's superior technologies. During these procedures, the human cells are removed from the matrix preserving the framework.

The resulting matrix (framework) is BellaDerm graft. In phalloplasty surgery, BellaDerm graft is used to enhance the girth and/or glans of the penis in male cosmetic surgical procedures described in this article.

How safe BellaDerm graft is? BellaDerm graft is made by the Musculoskeletal Transplant Foundation Corporation (MTF), the country's leading non-profit tissue bank, founded by surgeons in 1987. For over thirty years, MTF has provided high quality tissue to health care providers. As described above, BellaDerm

graft undergoes a strict and comprehensive series of procedures to assure its safety. In addition, BellaDerm graft is regulated by the FDA as a human tissue for transplantation, or as a banked human tissue. All procedures are performed in accordance with the standards and guidelines of the American Association of Tissue Banks (AATB); the Food and Drug Administration's (FDA); applicable CFR (Center for Devices and Radiological Health) regulations and requirements for the procurement and processing of banked human tissue; and all applicable state requirements. More information about BellaDerm graft is available on the MTF Corporation website at www.mtf.org

Why BellaDerm graft? There are a few reasons why BellaDerm graft preferable over AlloDerm graft. First, BellaDerm is a graft created from live donor compare to AlloDerm graft that created from cadaver donor [4]. Many patients don't want to have cadaver tissue implanted into their body. Second, when you order BellaDerm graft, it is almost custom-made graft. You are ordering the graft based on the measurements of the male penis (length, width, and thickness) and the company complied with it giving you the requested graft. It is one solid piece. When you order AlloDerm graft, you don't know what you get. It could be very unpleasant surprise during surgery when you opened a sterile package and see uneven thickness, improper length and width **Figure 9**. To avoid such situation, you must order additional graft that no any single patient wants to pay for. Third, based on the necessity to trim and stitch AlloDerm graft(s) during surgery, it is always extra time that surgeon needs to finish the procedure.

Patient's Choice. AlloDerm/BellaDerm and DFG grafts have advantages and disadvantages when used for cosmetic penile augmentation surgery. The author believes that the choice between DFG and AlloDerm/BellaDerm grafts belongs to the patient. Before procedure, every patient must complete phycological survey-Penile Image Assessment Scale **Figure 2**. This survey has 20 questions and 4 choices to answer. Depending on the choice of the answer and the summary of the results, the patient either became eligible for the surgery or not eligible for the surgery. For example, dissatisfaction score-2 or 3; satisfaction score 0 or 1. Average score before surgery was >35; average score after surgery was <20. Ideal surgical candidate has score from 30 to 50. If the score before surgery was 25, this patient was satisfied with the size of his penis and does not require surgery. If the patient's score before surgery was over 50, we consider this patient as a high-risk patient and we requested psychological evaluation before surgery. The changes of the penis image assessment scores that we have received after surgery are significant. The average change decreased approximately 50% after surgery and I am proud to present it in this article.

Surgical procedures

A total of 315 phalloplasty surgeries using BellaDerm graft were reviewed for this article. These surgeries were performed by the author over a 15-years period in multiple surgery centers in California, USA. Cosmetic augmentation phalloplasty surgeries included: single (girth enhancement) augmentation (59 patients or 18.7%), Penile Dual Augmentation, which is lengthening, and girth enhancement surgery combined (86 patients or 27%) and Penile Triple Augmentation which is lengthening, girth enhancement and glanular enhancement combined (170 patients, or 54%). All patients were evaluated before surgery. Laboratory evaluation and anesthesiology clearance were obtained for all patients. Medical clearance was obtained in cases where the patient's age and/or general medical condition indicated a need for it. Patients were photographed and marked in standard position before and after surgery. All procedures were discussed in detail with each patient. All patients' questions were answered, and every patient signed a detailed consent form before surgery. Consent forms were re-named to educational booklets based on quality and quantity of information presented there **Figure 4**.

Patient's education prior to cosmetic phalloplasty procedures presented in educational booklets included medical information, introduction to surgery, preparation and follow up checklist and set of phalloplasty timelines and guidelines, pre- and post-operative instructions, suggestions for maximizing the success of the surgery, lists of foods and medications to avoid, list of tests required for the surgical procedure, physiotherapy stretching exercise information using after surgery, written detailed explanation of the upcoming surgery and surgical complications, and the answers to frequently asked questions.

Every patient was able to access these educational booklets online on the website www.penilecosmeticsurgery.com. This information was in the special folder and was available at any time before and after surgery with the use of a unique secure ID and Password created for every patient.

General anesthesia was provided in accordance to the American Society of Anesthesiologists (ASA) guidelines with subsequent additional local anesthesia. Standard postoperative monitoring was provided after surgery in the recovery room, and all patients were discharged in a stable medical condition. All patients were instructed to contact the surgeon and/or the surgical center with any questions during the first 24 to 48 hours after surgery and returned for re-evaluation and dressing change the day after surgery and subsequently for 3-5 more days. All patients were then discharged home in a safe and stable condition. The surgeon and the surgery center were available 24 hours 3 days after surgery for all patients. Monitor recovery of all patients continued a weekly basis, during first two months after surgery through phone calls, e-mails, and photos that were evaluated by the surgeon over internet. In other words, we used telemedicine to follow up our patients. Some patients, after consultation with the office, were referred to local physicians for re-evaluation, with follow-up direct phone consultation between the surgeon and the local doctor. After surgery, all patients received prescriptions for antibiotics for 3 weeks, pain control medication for 5 days, and erection control medication for 6-8 weeks. All patients were instructed to resume sexual activities after 6-8 weeks if cleared by the surgeon.

Description of surgical technique used in girth enhancement surgery with BellaDerm graft

The patient was anesthetized before surgery and monitored according to the monitoring standards of the ASA. The patient was placed in the supine position on the operating table. The patient's genitalia were prepped, draped in a sterile fashion and marked accordingly **Figures 1-9**.

Figure 1: BellaDerm Graft. Acellular hydrated dermis for penile girth enhancement surgery.

Local anesthesia included penile block that usually complemented general anesthesia. A curvilinear (semicircular) incision **Figure 3**, approximately 5 centimeters in length, was made in suprapubic region at the base of the penis in the same way as has been described for lengthening augmentation surgery **Figure 8** in the previous articles **Table 1** [17-22]. A second semicircular incision was made approximately 5 millimeters proximal to the glans of the penis in the same way as it was described in the previous articles **Figure 3** [15-22]. The incision was made on the dorsal aspect of the penis from eight o'clock position through twelve o'clock position to approximately four o'clock position. This reference to clock positions refers to the circumference of the penis, when the surgeon is facing the tip of the penis, where twelve o'clock is at the top side of the penis. Needle tip cautery was used to incise and dissect down through the dartos fascia to the Buck's fascia. Nerves and large blood vessels were avoided **Figure 2**. After completing 2 incisions (one at the base of the penis **Figure 3A-C** and one in sub-coronal area of the penis) and inverting the penis for the preparation of the graft placement, all attention was directed to the BellaDerm graft. The graft came in sterile package that does not require any additional preoperational work before the placement on the penis **Figure 1**.

Table 1: Penis image Assessment.

Penis image assessment				
# Question	I Never- 0	Sometimes- I	Often- 2	Always- 3
1 I don't like looking at myself nude in the mirror.				
2 I don't like to be looked at in the nude by others.				
3 I avoid participating in activities, or wearing clothes, that will show my penis size.				
4 I avoid showering/changing/using urinals in front of others.				
5 I feel ashamed of my penis.				
6 I feel ashamed of my body (penis) in the presence of others.				
7 I don't like my penis.				
8 1 think my penis is too small in the flaccid (soft) state.				
9 I think my penis is too small in the erect state.				
10 I feel that other people must think my penis is unattractive.				
11 I feel that other people must think my penis is inadequate.				
12 I compare my penis to others to see if they are larger than I am.				
13 I wish my penis was longer and thicker.				
14 Enjoying sex is difficult because I am self-conscious about the size of my penis.				
15 1 am preoccupied with feelings of guilt about the size of my penis.				
16 I have negative and self-critical thoughts about the size and appearance of my penis.				

17 I avoid sex because of my penis.				
18 1 would change my penis if I could.				
19 I feel that I am less of a man because of my penis.				
20 1 think that enhancing my penis would give me added self-confidence.				
TOTALS				
SURVEY TOTAL	*			
I have not yet had enhancement surgery.				
I have had enhancement surgery.				
Date of surgery:				
Procedure:				
Today's date:				
* If your survey total is 30 or higher. You are a candidate for male enhancement surgery.				

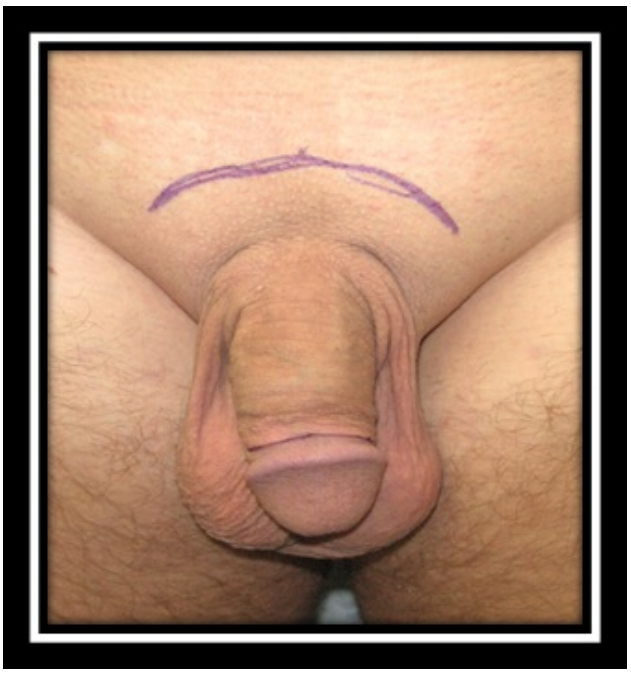

Figure 2: Cosmetic phalloplasty technique. Marking before surgery.

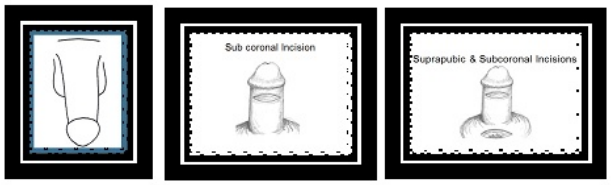

Figure 3: Surgical incisions for penile dual and triple augmentation surgeries:(A) Semicircular incision in supra-pubic area (B) Semicircular incision below the head of the penis(C) Both incisions present

BellaDerm graft acellular hydrated dermis for penile girth enhancement surgery

It is a one solid piece of the human skin graft that has exact dimension based on previous penis measurements. The sterile package was opened, and the graft was placed on the surgical field **Figure 9**. Then, the graft was placed on the penis corpora cavernosa to cover anterior ¾ of the penis. The graft on the corpora was then tacked down on the stretched penis using individual interrupted sutures that are going through the graft, frontal and lateral aspects of tunica albuginea on the sub-coronal area and the both side of the penis. The quantity of interrupted sutures was depending of the length of the penis. After BellaDerm graft was tasked down to the tunica albuginea, the graft was carefully inspected to make sure that it is in appropriate position, lying down flat and symmetrical on both sides in uniform fashion. The graft should not have any twisting points and should not restrict the tunica and subsequently the corpora from being easily advanced forward **Figure 6**. After that both wounds were inspected for bleeding, irrigated with antibiotic solution and closed using absorbable running sutures.

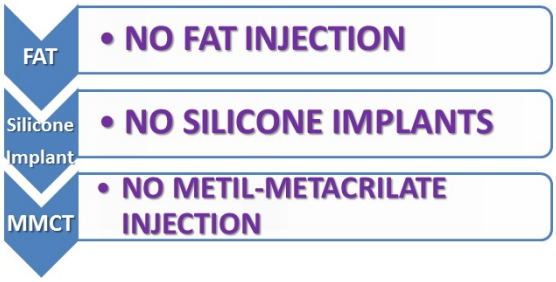

Figure 4: Unpopular cosmetic procedures for penile girth enhancement.

Description of surgical technique used in glanular enhancement surgery with BellaDerm: Penile glanular enhancement surgery is the most recent procedure developed for penile augmentation. This procedure can complement lengthening and girth enhancement, or it can be performed independently. In this article, glanular enhancement surgery was performed in conjunction with lengthening and girth enhancement surgery (Penile Triple Augmentation). In this description, glanular enhancement surgery will be described as it is performed during Penile Triple Augmentation surgery.

Prior to surgery, BellaDerm graft was prepared according to the needs of the patient. It was altered and trimmed in a meticulous manner so that it could be easily incorporated into the area under the glans, on the top of tunica albuginea, and along the shaft of the penis into the suprapubic region in the proximal portion of the penis. Curvilinear incision, approximately 5 centimeters in length, was made in the suprapubic region at the base of the penis. Second semicircular incision was made approximately 5 millimeters proximal to the glans of the penis **Figure 2**. With the skin removed from the top 3/4 of the penis as described above, two caverns about 5 mm in diameter and about 2 cm long were created underneath the glans of the penis on both sides utilizing tenotomy scissors. BellaDerm graft was then checked to ensure that it fits appropriately in the pockets and on the top of tunica albuginea.

In Penile Triple Augmentation procedure, a uniform design for glanular enhancement and girth enhancement was used, and the distal arm of the dermal graft was sutured on the top of distal portion of tunica albuginea. The pull-through technique, with a straight needle and dissolvable interrupted sutures, was used to accomplish this method. Each arm of BellaDerm graft was then placed into the appropriate pocket underneath the glans of the penis on both sides. Super precise care was taken to ensure that BellaDerm graft fit appropriately into these pockets. Two sutures that were used to secure dermal graft on the top of glans of the penis. Sub-coronal incision was closed on the same way as previously described for girth enhancement surgery. This surgical technique also has been developed and used by the author of this article and it was patented by the author in 2009. Measurements of the penis girth after dual and triple BellaDerm augmentation surgery was always performed and documented after completing the surgery **Figure 8**.

Results

Satisfaction with the phalloplasty surgeries using dermal graft in this study was analyzed using Penis Image Assessment Scale **Figure 2**. The scale is composed of questions related to penis size, satisfaction with sexual experiences, and the patient's perception of his penis before and after enhancement surgery. Penis Image Assessment Scale was developed by the author and has been satisfactory used for 15 years. There are Penis Image Assessment Scale Items related to patient's perception to the size of the penis such as: sexual experience, sexual satisfaction and psychological approach to the penis. The Penis Image Assessment Scale was developed, and 20 questions were used as a tool to assist with patient's selection before surgery and assess the result after surgery.

A total of 315 phalloplasty surgeries using BellaDerm graft were analyzed for this article. 63% percent of the patients who underwent penile cosmetic augmentation surgery with BellaDerm graft participated in our postoperative survey. 89% of these patients reported great satisfaction with penile augmentation surgery with BellaDerm graft. The average length gain (Photo 4) was about 1.8 inch (4.5 cm).

Figure 5: Legal phalloplasty documents for patients.

This includes Penile Dual Augmentation and Penile Triple Augmentation surgeries. Girth enhancement gain (width gain) depends on the size of BellaDerm graft and on the patient's penis anatomy **Figure 7**. The other factor determined post-surgical penis gain is the patient's decision of how much gain

he wants. The surgeon must confirm the patient's wish examining the surgical field, measuring the penis pre-surgical length and width to make sure that the patient is a proper candidate for the gain enhancement he requested. In this article, it was 15%-25% girth gain resulting from BellaDerm girth enhancement surgeries. This includes Single Girth Enhancement, Penile Dual Augmentation, and Penile Triple Augmentation surgeries **Figures 7 and 8**. Glanular enhancement surgeries in this study as a part of Penile Triple Augmentation surgeries, resulted in 10% gain in penis head circumference.

Figure 6: Cosmetic phalloplasty technique. Girth enhancement trend in surgical procedures.

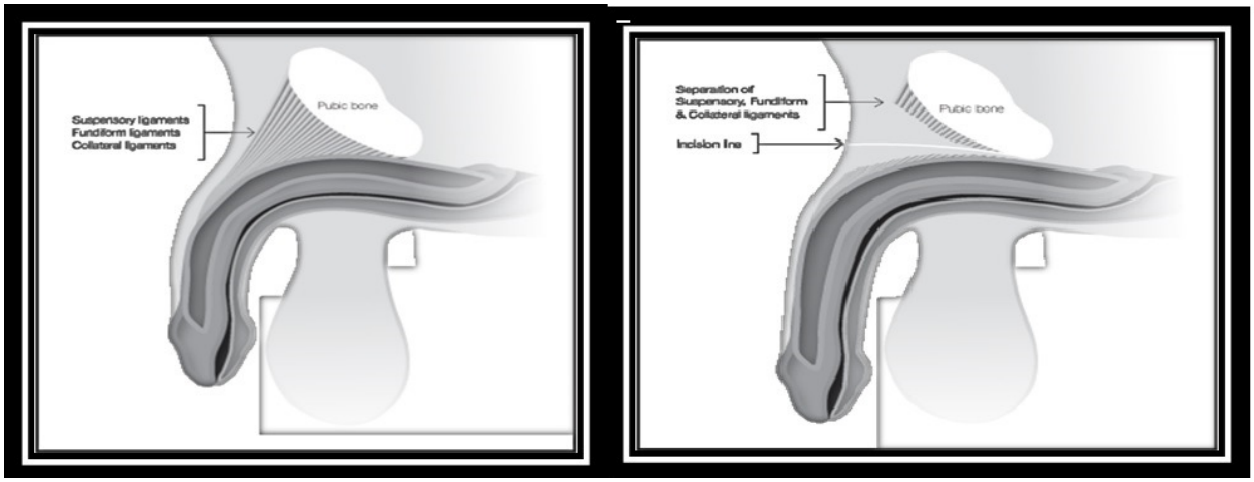

Figure 7: Cosmetic phalloplasty technique for penile lengthening augmentation surgery.

Complications

Infections that required medical and surgical treatments developed in 17 (5.4 %) of these patients. All patients were cured from infection after graft removal and 2 weeks of continuous treatment with general and local antibiotics administered through the drain. All 17 patients were successfully signed off from the treatment with subsequent instructions regarding continuity of care. 9 patients were on anabolic steroids (anabolic steroids compromised post-surgical wound healing); 6 patients violated post-surgical protocol having been engaged in early sexual activity that lead to the skin separation on sub-coronal incision and let the wound open. 8 patients smoked heavily (chain smokers) and they did not disclose this matter before surgery. 24 patients (7.6%) reported post-surgical retraction that was successfully treated medically and surgically.

Retraction treatment description

Penile retraction following lengthening surgery occurs in approximately 4% to 10% of all patients undergoing the lengthening procedure. This percentage applies to lengthening surgeries, as well as combination surgeries, such as Penile Dual Augmentation and Penile Triple Augmentation **Figure 5**.

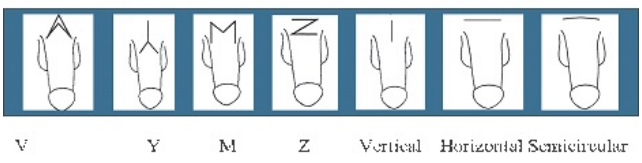

Figure 8: Historical incision types for penile lengthening augmentation surgery.

The reason that retraction occurs is that patients do not follow rules and regulations related to follow up care. It is also depending on surgical techniques that were significantly improved since historically performed incisions **Figure 5**. Our protocol clearly described the necessity for post-surgical physiotherapy, penis stretching exercises, using the recommended stretching device, for 6-12 months after surgery **Figure 5**. The optimal time frame is 1 year after surgery. Completing this stretching exercise program makes the length gain, that the patient enjoyed immediately after surgery, became permanent. If the patient does not follow these stretching exercise program instructions, he will either develop retraction, meaning that his penis will become shorter, or he will not gain any penile length because of the surgery.

We have developed medical and surgical penile retraction treatment protocol for these types of patients. The patient must contact our office immediately if this condition developed. He must then undergo medical evaluation and treatment that includes cortisone injections into the suprapubic area once a week for 1-2 months, as well as very intensive physiotherapy stretching exercises. If this treatment does not bring enough satisfaction, we offer surgery that includes reconstruction of the suprapubic area and excision of the scar tissue. A very small percentage of the patient population (about 1% to 2%) developed keloid scar tissue in this area. Usually, these patients have dark skin color. For these patients, there is no medical or surgical treatment for post- surgical penis retraction currently available.

Description of erection control program: Erection control is a mandatory for post Dual and Triple Penis Augmentation Surgery. Uncontrolled erection can ruin the results of the surgery, as well as compromise the reputation of the surgeon and the techniques [18-22]. The force of erection can open sub-coronal post-surgical wounds regardless of the number and strength of the stitches that were used to close the incision. An open wound can become infected from the skin and/or from the air. This, in turn, infects the graft. Wound infection is one of the most detrimental post-surgical complications, and it can necessitate the graft removal. To prevent an erection, and the potential wound opening, the erection control program has been developed and implemented by the author as necessary component for successful results of cosmetic penile augmentation surgery. The program has two parts: medical management and patient education [18,22].

Medical management consists of two medications that patient must use. It is also required the use of an ice pack. The first medication is Proscar 5 milligram pill. 5 to 10 of these pills must be taken every night for six to eight weeks after surgery or until healing was completed. The second medication is Ketokonazole 200 milligram pill. Two of these pills must be taken each night for four-week period. In addition to medications, every patient must use an ice pack every night as need it. Also, it is important for the patient to understand that he must break testosterone production circle setting up an alarm clock at about 4:00 am. He must wake up, go pee and apply ice pack on his penis for about 3-5 min. At this time, he must also take a few Proscar pills and go back to sleep. Male brain produce testosterone with the production pick at about 3-5 am daily. Testosterone erect male penis and therefore its production must be cut off until post-surgical healing completed. This program has proven to be highly effective in decreasing the number of post-operative complications. Patient education regarding post-surgical erection control is as important as medical management. The patient must understand that he is as responsible for post-surgical management, surgical results and potential complications development, as his doctor. Follow up with the surgeon regarding any questions about the erection control program is mandatory to ensure a good result. These two parts of the erection control program usually worked for almost all patients and decreased the rate of post-surgical complications for the patients who have undergone cosmetic penile enlargement and augmentation surgery.

Discussion

For decades, many medical professionals, including psychologists and urologists, have claimed that penis enlargement surgery is useless and even impossible. During the last 2 decades this perception has changed, largely due to cosmetic/plastic surgery achievements that have demonstrated that penis enlargement procedures are safe and effective [1,3,15,18,21,22]. Early penis enlargement surgery used free fat transfer (FFT) [10]. After the FFT technique, surgeons used DFG technique, which is a graft prepared from the patient's own tissue [11,22]. Historical birth enhancement technique development demonstrated on **Figure 7**. Both the FFT and the DFG techniques have been used for years for penile augmentation [12,22]. Complications, resulting from these techniques, have been analyzed and described in the medical literature [10-22]. More recently, AlloDerm and BellaDerm grafts prepared from cadaver and live skin donors were introduced and became the major players in cosmetic phalloplasty surgery field [3-18]. Unpopular cosmetic surgical procedures for girth enhancement surgery demonstrated on Figure 6. In the future, AlloDerm and BellaDerm grafts may be replaced by artificial tissue, by engineered material, by stem cells or by human penis cells cultured and grown for use as a natural matrix.

The American Academy of Phalloplasty Surgeons is an association of highly qualified medical professionals has established international standards for male cosmetic genital surgery, including the identification of indications, operative strategies, surgical techniques, and the assessment of results [2]. The Academy does not consider male cosmetic augmentation surgery to be an experimental procedure. In addition, many patients who undergo this type of surgery have a penis in the normal size range. Yet, despite successful physical results, the subjective evaluation of aesthetic results and the ethical implications of male cosmetic genital surgery are debated. In 2008 The Academy established educational branch, International Phalloplasty Institute www.internationalphalloplastyinstitute.org that provided education and training of doctors around the world.

Conclusion

This article represents retrospective evaluation of patients who have undergone cosmetic penile enlargement surgery with BellaDerm graft. Patients reported a high satisfaction rate with this surgical technique (Penile Dual and Triple Augmentation) developed, used and patented by the author of this article [15-22]. In the U.S. and around the world, there is growing number of men who expressed an interest in Cosmetic Penile Augmentation Surgery [3-22]. Many men want to learn about how cosmetic phalloplasty surgery can improve their self-esteem, self-confidence, sexual relationships, and ability to satisfy their partners [17-22]. The American Academy of Phalloplasty Surgeons has developed and established

international standards for Male Cosmetic Genital Surgery and this Society does not consider Penile Cosmetic Enlargement Surgery as experimental procedure [2].

The American Academy of Phalloplasty Surgeons was founded almost 30 years ago in the United States of America. The Academy has approximately 80 members from countries around the world. The members of the Academy are either urologists or plastic/cosmetic surgeons who perform Penile Plastic/Cosmetic Augmentation Surgery. All members of the Academy have an opportunity to meet at Academy meetings. The meeting agenda usually includes an invited speaker who presents new achievements in this field of medicine. Academy members and meeting attendees present their surgical experience in urology, plastic surgery, sexual medicine, cosmetic surgery, and related areas. The Board of Directors regulates all activities. The former President of the Academy is a Board-Certified urologist and Associate Professor at Albert Einstein Hospital in New York. He recognized for developing several procedures in phalloplasty surgery field **Figure 9A and 9B**.

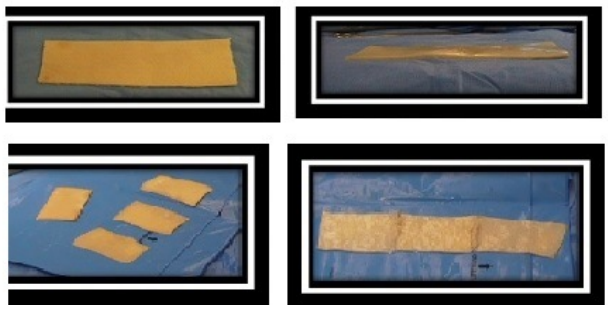

Figure 9: (A,B) Modern grafts for penile girth enhancement surgery (BellaDerm Graft and AlloDerm Graft).

In 2002 at the annual AAPS meeting, after years of development of phalloplasty surgery, Academy members discussed the existing permanent graft technology available to the United States market at that time (DFGs and AlloDerm). They concluded that phalloplasty surgery with permanent grafts should be considered as a safe plastic/cosmetic surgical procedure. Phalloplasty surgery should no longer be considered as experimental surgery [2]. In 2008, the Academy has established an educational branch, the International Phalloplasty Institute, working with different companies to create a teaching program in the United States and abroad to get doctors covered by malpractice insurance. After successfully completing this program, doctors became eligible for malpractice insurance that will cover them to perform cosmetic phalloplasty surgery. This program is available for all surgeons who would like to learn how to perform these procedures correctly and safely. It is the Academy's goal to teach phalloplasty surgery to other medical specialists, and to help them to become eligible for affordable malpractice insurance by completing this program.

For more information regarding International Phalloplasty Institute program, including curriculum, schedule, location, fees, travel and accommodations, please visit IPI website at www.internationalphalloplastyinstitute.org

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