

Novel Percutaneous Areola Reduction

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Summary: We present a novel percutaneous areola reduction technique that, to our knowledge, has never been used or published in the past. This technique is a useful solution to the downsides of the current most commonly used technique for areola reductions that uses a circumareolar incision. Our current technique utilizes a percutaneous approach, which is a minimally invasive procedure, and produces a virtually scarless result. (*Plast Reconstr Surg Glob Open* 2024; 12:e5783; doi: 10.1097/GOX.0000000000005783; Published online 3 May 2024.)

INTRODUCTION

Large and/or abnormal-appearing areolas are a frequently encountered issue in plastic surgery. Many patients with this abnormality may have a tuberous breast deformity (or related conditions), or simply experience the normal variance of areola size. These patients, both men and women, often feel embarrassed about the appearance of their areolas, causing them to avoid social or personal situations where they will be shirtless with exposure of their chest. Previous techniques for fixing this abnormality included a circumareolar scar that can often be unsightly in and of itself and can worsen the individual's self-consciousness. We are presenting a novel technique that we have been utilizing in our practice. It is a quick, minimally invasive, nearly scarless, effective, and visually appealing procedure. In this article, we will discuss areola hypertrophy, current areola reduction techniques, our novel areola reduction technique, and how our new method is different and better than previously used areola reduction procedures.

PROCEDURE

With the patient supine, this procedure can be done under local or deeper anesthesia. The 1- to 2-mm stab incisions are made at the junction of the areola and skin at 12, 2, 4, 6, 8 and 10 o'clock positions. Then using a 4-0 Gore-Tex on a Keith needle, starting at the 12 o'clock position, the needle is threaded in the deep dermis to the adjacent stab incision. The needle is brought out and then back in through the same site. Once the percutaneous dermal circumferential purse string is complete, and the ends

are outside of the same initial site, the Gore-Tex suture is tensioned to the desired new areolar diameter. Five to eight knots secure the stitch, and then the knot is buried. Depending on the size of the areolar reduction, there can be herniation of the breast parenchyma through the areola similar to a tuberous breast deformity. This is easily treated by cross-hatching the Gore-Tex stitch under the nipple. We will go from the 12 to 6 o'clock position and back from 6 to 12 o'clock, and from 3 to 9 o'clock and back from 9 to 3 o'clock. It is imperative to capture the dermis and ductal system directly under the nipple to adequately reduce the breast parenchyma. The stab incisions often are so small that they do not need to be sutured closed or can be closed with a simple stitch of 6-0 plain gut. The site is covered with xeroform and slight pressure dressing.

RESULTS

Over the last 36 months, we have performed this procedure on six patients. In the following figures, we have documented one of our patient's outcomes with preoperative and postoperative photographs. Postoperative photographs were taken immediately after the procedure, 2 weeks after the procedure, 6 weeks after the procedure, and 6 months after the procedure. Postoperative areola measurements were taken by the operating surgeon immediately after completion of the procedure. Measurements of the areolas were assessed with a measurement tool for size reduction and assessed visually for symmetry and visual appeal by both the patient and the operating surgeon.

We would consider failure of the procedure to include recurrence of widening of the areola, herniation of the areola, issues with pleating, and/or issues with the Gore-Tex suture, namely failure/breakage of the suture. In all six of our patients, we did not see any recurrence of widening of the areola or any issues with the Gore-Tex suture. All six patients expressed satisfaction with the reduced area of the areola, and none of the patients experienced any of the failures listed earlier. All patients maintained

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their reduced areola size at all measured time frames after the procedure, which is indicated by the patient shown, whose areola stayed at a reduced diameter at 6 months postoperative (Figs. 1–4).

DISCUSSION

Areola hypertrophy is a relatively common condition seen in both men and women with an unknown etiology leading to the random variation in size.¹ It is more common for men to expose their nipple-areola complex (NAC) in public due to social norms and being shirtless. This can lead to more frequent feelings of self-consciousness but does not diminish the fact that for women this is just as concerning an issue. Morphological abnormalities of the areola may be even more obvious in men compared with women because men do not have underlying breast tissue to serve as a cosmetic buffer.¹ However, similarly to the need for breast augmentation surgery, areola reduction surgery in women is certainly still in large demand, namely, for self-confidence enhancement. Other uses for areola reduction surgery are in cases of the tuberous breast deformity in both men and women. The tuberous



Fig. 1. Preoperative photographs of bilateral breasts of patient for bilateral breast augmentation and left areola reduction. Areolas measure 2.5cm in diameter on right and 4.5cm in diameter on left preoperative.

Takeaways

Question: Is there a scarless and less invasive areola reduction technique? If so, how is it done?

Findings: We created a novel areola reduction technique that is virtually scarless and minimally invasive.

Meaning: We created a novel areola reduction procedure that utilizes a percutaneous technique to reduce areola size with a virtually scarless result.

breast deformity is a common congenital abnormality that is characterized by breast base constriction, parenchymal hypoplasia, inferior breast skin deficiency, superior malposition of the inframammary fold, areolar herniation, and asymmetry.² This disorder, while only a cosmetic ailment, requires an invasive surgery to reconstruct the breast, areola, and nipple.

Areola reduction alone is limited in the literature. Most surgical techniques focus on treatment of the nipple rather than the areola. Most techniques in the literature regarding NAC reduction describe different techniques for nipple length reductions and nearly all utilize a circumareolar reduction of the areola.^{2–4} Newer research is also investigating infra-areolar techniques.⁵ What all of these techniques have in common is a large, unsightly scar in or around the areola. The goal of plastic surgery is to recreate a natural appearance that is satisfying



Fig. 2. Photograph of patient's bilateral breasts 2 weeks postoperative.



Fig. 3. Photograph of bilateral breasts of patient 6 weeks postoperative.



Fig. 4. Photograph of bilateral breasts 6 months postoperative.

to the patient, and areola reductions are intended to enhance the appearance of the areola. However, circum-areolar scars can be just as, if not more unsightly than a

malformed or hypertrophied areola for both men and women.⁶

We have developed a novel areola technique that solves the main problems posed by the current areola reduction techniques; our new technique is minimally invasive and virtually scarless. This technique, which utilizes a percutaneous approach to constrict the muscle fibers and connective tissue underneath the areola to reduce the size of the areola, has not been presented in the past. Andjelkov et al⁷ published the use of a percutaneous technique to correct the protuberant NAC in men and women. This technique focused on treating the herniating breast tissue through the NAC rather than primarily addressing the large diameter areola.⁷ Our novel technique primarily focuses on treating the areola.

CONCLUSIONS

We present a very simple and effective way to treat a very common problem, areola hypertrophy. This can be associated with a tuberous breast deformity or a standalone issue. The ease of our technique with almost no visible scar should make this the preferred procedure to treat this psychosocially disabling issue. We believe this is an excellent technique for breast surgeons to have in their repertoire of procedures for areola reductions.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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