The PAM Method—Periareolar Augmentation Mastopexy: A Personal Approach to Treat Hypoplastic Breast With Moderate Ptosis

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Abstract

Background: Circumareolar incisions in breast augmentation surgery can center slightly low areolas on the breast mound and treat moderate ptosis. This maneuver, however, is limited to moderate cases because it does not achieve any lifting of the breast.

Objectives: The author describes periareolar augmentation mastopexy (PAM), a new systematic approach of breast augmentation and lifting through a circumareolar incision, by means of a vertical or T-plication on the lower pole of the breast.

Methods: Twenty-eight patients underwent PAM. Intraoperatively, the epidermis was stripped on the area between the areola and the circumareolar incisions; after abundant tumescent infiltration, a detachment was performed on the areolar plane at the breast’s lower pole. The submuscular plane was reached through a vertical incision on the breast, and a high-profile implant was placed. Over the same incision, a strong plication was performed to tighten the laxity causing the ptosis. The skin was closed with a purse-string suture.

Results: The complication rate was low in this patient series: one case of small necrosis of the periareolar skin, one case of areolar asymmetry, three cases in which the areolas were not postoperatively round, and one case of infection in the unilateral purse-string suture. All patients saw great improvement in breast shape and were satisfied with ptosis correction. The technique results in minimal postoperative scarring, since it relies on a single circumareolar incision.

Conclusions: In this small series, PAM proved to be an excellent technique with consistent aesthetic results for correction of hypomastia in patients with moderate to minimally severe ptosis.

Level of Evidence: 4

Keywords

breast surgery, ptosis, augmentation mastopexy, breast lifting, circumareolar incision

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areola and flatten the breast. More aggressive degrees of ptosis require a more aggressive procedure, such as circumvertical mastopexy or a T-scar mastopexy. Nonetheless, many of the patients who present with Grade 1 or moderate Grade 2 ptosis are hopeful that breast augmentation alone or minimal-incision mastopexy techniques will address their concerns.

Additional procedures have been described to optimize ptosis correction through circumareolar incision augmentation and some circumareolar methods of correcting ptosis without augmentation can be adapted for placement of an implant. The procedure described here, the periareolar augmentation mastopexy (PAM), was developed based upon the author’s extensive experience with some of the techniques previously described in the literature. In this article, the author describes his adapted technique, which relies on a circumareolar incision and detachment of the lower pole of the breast, through which the breast is augmented with a submuscular implant and mastopexy, achieved by a vertical- or T-plication in the lower pole. This method results in a single circumareolar scar.

**METHODS**

**Patients**

Between November 2009 and April 2011, 28 patients underwent PAM in the author’s clinic. The patients selected for this technique were those with hypoplastic breasts and with Grade 1 or moderate Grade 2 ptosis. Three of these were secondary patients who had already received submuscular implants, one of whom presented with ptosis after primary augmentation and two of whom presented with ptosis after a circumareolar approach without glandulopexy.

**Surgical Technique**

Skin markings were placed preoperatively while the patient was standing. First, a midclavicular vertical line was marked on the meridian of the breast, passing through the middle of the clavicle at the center of the areola (ie, a hemiclavicular NAC line). The highest point of the circumareolar marking (Point H; Figure 1A) was drawn over this midclavicular line with a hard plastic ruler. To determine the location of Point H, a caudal distance was measured from the highest point on the clavicle, corresponding to the patient’s height in centimeters divided by 10. For example, if the patient was 167 cm tall, the distance between the highest point on the clavicle and the highest point of the circumareolar marking (Point H) was 16.7 cm. The lowest point of the areola was then marked (Point L). An elliptical or oval shape was then drawn between Points H and L (Figure 1B). The desired size of the areola was also marked; in most cases, the diameter of this mark was 4 or 4.2 cm.
detachment on the areolar plane.

The green mark indicates the upper limit of the detachment at the lower pole, which runs from the medial lower edge of the breast to the lower caudal area, close to the IMF, to permit T-plication, which provides further firming of the gland.

This mark was not circular, because the main principle of this technique involves adjusting the extra skin at the lower pole of the breast, thus avoiding pulling skin from the medial area, where there is little or no laxity (Figure 2). As the index finger and thumb bring Points H and L together to a distance of about 4 cm, the shape becomes round because this movement mimics what will happen when the circumareolar shape is closed around the areola. A curved line was also marked from the medial lower edge of the breast to the lower lateral edge, over the ellipsoid. This line indicates the upper limit of the detachment at the lower pole, which runs from its start to the IMF, also marked (Figure 2).

The procedure was performed with the patient lying in dorsal decubitus, with the back slightly raised. To begin, all patients received an intercostal block plus sedation, with the exception of two patients who received an epidural block because they were undergoing concurrent abdominoplasty. One gram of second-generation cephalosporin was administered intraoperatively. Anesthesia began with abundant subcutaneous tumescent infiltration at the areolar plane, about 0.5 cm below the skin. The whole area of the lower pole—between the curved line running over Point H and the IMF—was infiltrated at the medial area of the breast, corresponding to the infra-areolar extension of the midclavicular line. The infiltration was deep, in an attempt to reach the pectoral muscle. The whole pectoral muscle insertion area, next to the sternum and at the caudal part of the breast, close to the IMF, was also infiltrated.

After the infiltration’s hemostatic effect was achieved, the epidermis was stripped on the area between the areola and the elliptical incisions (Figure 3A). An incision was then made around the whole internal rim of the external circumareolar line; such an incision must enter the areolar plane about one-half centimeter under the skin. With either the blade or Metzenbaum-type scissors, all of the previously marked area on the lower pole was detached, leaving behind a thick skin flap to ensure adequate blood supply (Figure 3B). After thorough hemostasis of the whole detached area, a vertical incision was made on the mammary gland, following the midclavicular line from the areola to the IMF (Figure 3C). The incision proceeded until it reached the pectoral muscle, at which point the muscle was exposed by a detachment over the muscular fascia. Such detachment must run laterally and be of adequate size to enable an incision of about 4 cm, following the direction of the fibers to render an opening on the muscle that permits submuscular detachment and implant placement (Figure 3D). The muscular opening incision was made on the muscle and not on its edge, as with the dual-plane method. The musculature of the area was detached all together, including the serratum. The objective of submuscular detachment was to achieve ample release of the muscle on its medial area, without tearing it away; on the caudal area, the muscles must be incised from the medial to the lateral point, at which time the serratum is torn away as well. To bring down the IMF, the muscle fascia must also be incised.

After aspiration drains were introduced, the implant was placed. Only round, textured implants were placed, in a high- or extra-high-profile style. High-profile implants are preferable because this technique somewhat flattens the breast after closure of the circumareolar incision. The mastopexy commenced after the muscle was closed (Figure 4A), first by exposing the previous vertical incision. A large Farabeuf retractor was inserted to pull down the edge of the circumareolar incision and pull the areola cephalically. The glandular tissue immediately below the areola’s lower edge was grasped with a Kocher forceps. As soon as the vertical incision was exposed, two vertical lines were marked parallel to the incision and about 2 cm from its edge (Figure 4B). A Vicryl 2-0 suture (Ethicon, Inc., Somerville, NJ) was placed, taking the gland in two bites—one on each of the marked vertical lines, about 3 cm caudal from the areola. The first suture provided the surgeon with a sense of how flaccid the area was and how close or distant from the parallel lines the subsequent stitches should be. At this point, the lower pole surface of the breast was very firm after being tightened by the suture. Five to seven stitches were placed to lift the breast tissue from near the areola to near the IMF (Figure 4C). A small horizontal cut can also be made to liberate the gland near the IMF, to permit T-plication, which provides further firming of the gland.

A new aspiration drain was then placed, with the catheter inserted into the armpit, up to the area immediately caudal to the lift detachment. After confirming hemostasis, the circumareolar incision was closed with a purse-string suture of multibraided 2-0 nylon thread (Figure 4D). This circumareolar suture was closed according to the desired size of the areola, which was previously marked. Additional Vicryl 3-0 and 4-0 sutures were placed on the subcutaneous tissue at

Figure 2. This 43-year-old woman, 165 cm in height, is shown with preoperative markings. The distance between the top of the clavicle (at the breast meridian line) and Point H is the patient’s height divided by 10, which corresponds to 16.5 cm. The green mark indicates the upper limit of the detachment on the areolar plane.
the cardinal points; the infradermic skin suture was continued with nylon 5-0 (Figure 5A). The entire procedure was completed in approximately two hours, similar to a T-scar or a circumvertical mastopexy procedure.

Draining catheters were left in place for 24 hours postoperatively; the usual amount of fluid collected on the four drains ranged from 30 to 50 mL. (The drains placed on the glandular detachment were designed to help avoid seroma formation and consequent poor adhesion of the flap over the breast.) All patients were discharged 24 hours postoperatively after drain removal, with the exception of the two patients who underwent concurrent abdominoplasty. Patients received a second-generation oral cephalosporin antibiotic, 500 mg, twice per day for five days. Tight dressings, including surgical bras, were initially avoided to allow for blood circulation in the detached flap. After the sutures were removed, patients wore surgical bras for six months, which were fitted to avoid excessive compression.

Clinical results are shown in Figures 6 and 7. A video demonstrating the author’s operative technique is available at www.aestheticsurgeryjournal.com. You may also use any smartphone to scan the code on the first page of this article to be taken directly to the video on www.youtube.com.

**RESULTS**

Patient ages varied between 19 and 57 years (mean, 34 years) and weights ranged between 112.2 to 182.6 lb (mean, 143 lb)
Figure 4. (A) After the submuscular pocket is detached and the implant is introduced, the muscle is closed. (B) Two lines are marked parallel to the incision at the breast meridian, about 2 cm away from the incision. (C) The parallel lines are joined through separate sutures, and new stitches are made more laterally to those lines, until the site feels firm and resistant to tension as they are joined. (D) A purse-string suture is made to close the periareolar incision, measuring the same as the previously-marked areola.

Figure 5. (A) The periareolar stitch holds the excess skin around the areola. The folds left behind by this maneuver will settle by about three months postoperatively. (B) The projection achieved by the lifting is immediately appreciable.
Figure 6. (A, C) This 34-year-old woman presented with ptosis. She was 167 cm in height, with a 23-cm distance between the top of her clavicle and the top of her original areola. The distance between the original top of her areola and Point H was 6.3 cm. (B, D) Ten months after periareolar augmentation mastopexy with a round high-profile implant (285 cc).
Figure 7. (A, C) This 21-year-old woman presented with ptosis and breast asymmetry. She was 164 cm in height. Her nipple was 1 cm below the inframammary fold, with 2 cm of breast tissue hanging over it. The distance between the top of her clavicle and the top of her original areola was 21.5 cm. The distance between the original top of her areola and Point H was 5.1 cm. (B, D) Eight months after periareolar augmentation mastopexy with round high-profile implants: 215 cc in the left breast and 195 cc in the right, to improve asymmetry.
Table 1. Patient Demographics

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*Postoperative, at least three months. Dash (—) indicates not stated on patient chart.

(Table 1). Patients ranged in height between approximately 5' to 5'8" (average, 5'4"). (See Table 1 for metric measurements.) Four patients were smokers. According to Regnault’s classification, nine patients had moderate Grade 2 ptosis and 19 had Grade 1 or severe Grade 1. The amount of breast tissue hanging over the IMF varied from less than 1 to 2.5
cm. Postoperatively, the distance by which the areolas were raised to occupy a more cephalic position ranged from 2 to 7 cm. The implants placed in this series ranged from 135 to 355 cc (average, 242 cc; mode, 255 cc).

Complications were scarce and easily treated. One patient, the second in this series, experienced a small, partial necrosis of the periareolar skin due to the thin flap, the tension on the circumareolar suture (from a large implant), and the compressive dressing. The necrosis resolved well and healed without leaving any evident defects. The author then refined the PAM method to utilize an areolar plane from the incision rim (thus leaving a thicker flap) and no longer used tight dressings, after which there were no other necroses. One patient had discreet areolar asymmetry, with the left areola 1 cm lower than the right, and underwent a revision procedure to correct the problem. The procedure did not yield perfectly round areolas in three patients, one of whom underwent correction; the other two were not bothered by the problem and did not require correction. One patient had a unilateral infection 45 days postoperatively, resulting from the multibraided nylon suture. The suture was removed and surprisingly, despite a slight increase and flattening of the areola, no hypertrophic scar developed in the six months following suture removal. None of the other 27 cases had flattening of the areola, increase in size, or hypertrophic scar.

Ptoisis correction was satisfactory in every case, both in the patients’ opinions and in the author’s. As the number of patients is small, the patients’ opinion survey was made orally by the nurse and the author. No secondary ptosis was observed in any case. Of the 28 patients who underwent surgery, eight have been followed for more than one year at the time of this report, and an additional nine have been followed for more than six months. The secondary ptosis observed at six months postoperatively in most patients who undergo traditional mastopexy has not been observed in the patients in this series.

**DISCUSSION**

Since the advent of breast augmentation with silicone implants, surgeons have faced a challenge with patients who have hypomastia-associated ptosis. Circumareolar incisions alone—that is, those not followed by mastopexy—are indicated only for cases of moderate-grade ptosis. This limitation has led to a search for different approaches for patients with higher-grade ptosis, for whom the PAM technique described here is well suited. Of note, the author has observed that a fair number of patients with moderate ptosis deem scars on the breast to be unacceptable, but do not mind circumareolar ones, as long as the quality is good. The PAM technique, with its single incision, also meets the needs of those patients.

Mastopexy with circumareolar scars alone, with or without treatment of associated hypertrophy, has been described, and some of the existing techniques can be adapted for use in breast augmentation with implants; however, those techniques require a large detachment (1) between the mammary gland and the pectoralis major muscle, (2) between the gland and the skin, or (3) both, which prevents implant placement or may harm the blood supply to the breast and areola. To augment the breast with implants and perform the mastopexy in a single procedure through circumareolar incisions, the required detachment must maintain blood supply to the breast and areola, which is precisely why none of the techniques previously described may be routinely used for concurrent augmentation and mastopexy.

**Lower Pole Detachment**

Spear and Giese described a method of trimming and plicating the gland through a widened circumareolar incision to obtain a more conic shape. For the same purpose, they also described a “criss-cross” with the flaps, which was made after vertically splitting the lower pole of the gland following detachment of the lower pole. With regard to lower pole detachment, there are several key points associated with the PAM technique. First, the implant should be placed in a retromuscular position, since retroglundlar placement could jeopardize vascularization of both the gland and the NAC when a detachment is made on the gland at the lower pole. Second, to expose the gland, the whole lower pole should be detached, providing the surgeon with freedom to adequately perform vertical or plication on the breast. Third, ample detachment must be carried out to allow for appropriate skin accommodation and redistribution, in order to avoid lumps as well as a concentration of excess skin after plication of the gland. Finally, detachment of the lower pole should include the lateral areas of the circumareolar incision, which allows for better distribution of the skin around the areola, as well as reduced tension on the suture—the main cause of areolar enlargement and flattening, which may occur even if a purse-string suture is placed.

**Positioning and Marking the Areola**

Resulting from his experience with other techniques, the author incorporated several key points into the areolar marking and positioning portion of the PAM technique. In a truly efficient technique that repositions the breast with minimal secondary ptosis, the marks must indicate the position of the areola on the ideal spot, given that patients may perceive low areolas as ptosis. One of the worst complications of mammary pexis is an areola that is positioned too high, because correction is extremely difficult. However, an areola positioned too low is unsatisfactory to the patient and is often a reason for corrective surgery.

Studies measuring the height of the areola as related to the distance between the navel and the suprasternal notch have suggested an ideal average for such a relation. Although no studies have proven a relation between a person’s height and the distance from the
areola to the clavicle, the author believes that just as there is an ideal relational measure between (1) the navel and suprasternal notch (which varies according to a person’s height) and (2) the height of the areola, there is also an ideal relationship between the patient’s height and her clavicle-to-nipple measurement. Therefore, he relies on the rule of using the patient’s height as reference (ie, height in centimeters divided by 10), which was adapted from successful experience with hundreds of mastopexy patients treated for breast hypertrophy. In his series of mastopexy patients for whom he relied on height calculations, there were no cases of high postoperative areolas, but a few patients did have areolas that were minimally lower than ideal and had to be revised. Fixed measurements may provide satisfactory placement for women of average or medium height, but would likely result in areolas placed too low on shorter women and too high on taller women.

Furthermore, circumareolar techniques that rely on areolar measurements based on the projection of IMF could leave the areola too low in patients with low IMF and too high in those with high folds. Pitanguy prescribed this reference point, which he called Point A, to designate the highest point of a triangle that forms a cone when its branches are drawn together. However, in his technique, the areola is marked after the cone has been assembled and the breast has been remodeled and lifted; the repositioned breast is thus taken into account, leaving the surgeon free to reposition the new areola based on observation. For better assessment, Pitanguy recommended that the location be chosen with the patient semiseated, which provides the surgeon with better visualization of the whole chest. Under such conditions, the top of the new areola no longer has a fixed relation with Pitanguy’s Point A and may lie much higher, more lateral, or more medial to it, as required. The freedom to subjectively position the areola requires a learning curve and therefore experienced surgeons are more likely than beginners to visually estimate the right position. Still, Pitanguy believed this method was advantageous for two reasons: first, techniques that use fixed measures—from either the suprasternal notch or the hemiclavicular line—fail to consider the new shape of the breast; second, many surgeons do not even consider the patient’s height, instead relying on the same fixed measurement for each patient.

Regardless, with the circumareolar technique, the top of the new areola should be marked before surgery and its position should be as accurate as possible; for this reason, Point H, as described in the PAM technique, is related to the patient’s height (a relationship that clearly exists), which is a useful reference and has thus far proven to be reliable in the author’s hands. Also of note, measurements taken at the breast meridian are more accurate than those taken from the suprasternal notch, which vary according to the patient’s chest width. Another advantage of following the breast meridian is that one can easily draw a line parallel to the hemiclavicular NAC when placing the areola more toward the middle or the side.

Outcomes

Excellent outcomes have been observed with the PAM technique, even with a relatively short follow-up period of slightly more than one year. (Secondary ptosis usually occurs between six months and one year postoperatively.) The results are likely due in part to the retromuscular placement of the implants, which supports the weight of the device. The lifting effect of this technique is not based on support from the skin, which might stretch, but rather from the gland itself, which is more resistant. All patients in this series had breast tissue firm enough to accommodate the plication; their glandular tissue was always predominant over the amount of fatty tissue. The rate of complications that required revision in this patient series fell within the average rates documented in the literature for simultaneous lift and augmentation, but it is important to stress that all revisions in this series were minor. Another important aspect about the safety of this procedure is the adequate blood supply maintained for the gland, nipple, and skin flap of the glandular detachment. The one case of micronecrosis was explained by the pressure of excessively tight postoperative dressings. Of the four patients who were smokers, no difference in blood supply was noted compared with that of the nonsmokers.

Postoperative scar quality was also good because the skin around the areola was easily pulled close to it, given that it was widely detached on the lower pole. The pleating and small hollows on the skin surrounding the areola (due to the round-block suture) usually settle after approximately three months. In some cases, this period is longer, which may be a cause for concern among patients. One drawback of this technique is that it is difficult to close the incision when large implants are being placed. In one case, the original 385-cc implant had to be replaced by a 305-cc implant for that reason.

Indications

The most ptotic patient in this series required raising of the nipple by 7 cm. Most patients with mild ptosis, which usually requires a circumvertical approach, can be better treated with the PAM technique. Although both procedures rely on vertical tightening of the lower pole to obtain the fixation, the circumvertical technique bases the lifting effect on skin, which is elastic and subject to natural stretch. However, with the PAM technique, the fixation is based on the gland, which is firmer than skin (the excess of which is accommodated over the gland). The author observed numerous cases of secondary ptosis with the circumvertical procedure, but none has been observed with the PAM technique.

Based on the results of this preliminary series, the PAM method is a promising technique that may replace the circumvertical approach for nearly all indications. Specifically, it is indicated to correct cases of (1) secondary ptosis in patients with previous submuscular implants and
large and flat areolas caused by unsuccessful previous periareolar procedures performed without inferior pole detachment and glandulopexy.

Like any technique, the PAM method has limitations and use of it in patients with laxity, poor skin condition, and striae could result in unsatisfactory outcomes. The position of the IMF and the grade of ptosis are also important considerations. Performing the PAM technique in patients with severe grades of ptosis could eventually result in poor skin retraction and excessive periareolar scarring due to inadequate accommodation of the excess tissue.

CONCLUSIONS

The PAM technique is an excellent method for correction of hypomastia of moderate-to-minimally-severe ptosis. The technique is simple and relies on fixed measurements based on the patient’s height for placement of the areola, which means that it has less of a learning curve than other techniques and is less dependent on the surgeon’s ability and experience. Any surgeon experienced with retromuscular implants and circumareolar mastopexy techniques will likely find it easy to adopt the PAM technique. The method, which results in a single circumareolar scar, yielded positive results in this series of 28 patients, with few (and minor) complications and a high rate of patient/surgeon satisfaction. The technique would benefit from further study with more patients and longer follow-up, but the consistent aesthetic results shown in this series are promising.

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REFERENCES