Discussion: Prospective Comparative Clinical Evaluation of 784 Consecutive Cases of Breast Augmentation and Vertical Mammaplasty, Performed Individually and in Combination

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This article surveys five different breast procedures that differ considerably in method, goals, and materials (implants or not). The author arrives at two disparate conclusions following data analysis: vertical mammaplasty is widely applicable and single-stage augmentation/mastopexy is safe to perform.

This article is described as a prospective study. However, prospective studies define a population and determine the incidence of particular outcomes as they occur *over time*. The Framingham Heart Study is a classic example, as is a chemotherapy trial with several treatment arms. A retrospective study classifies participants as either having had a particular outcome or not, looking backward. The data here document outcomes from procedures performed at the very beginning of accrual, with limited follow-up. Thus, it is a retrospective study. The distinction is noteworthy because retrospective studies are more likely to have errors resulting from confounding factors and selection bias.

The author proposes vertical mammaplasty as an "all-seasons" technique that should supplant the need for both circumareolar and inverted-T methods. It is certainly reasonable to say that it occupies a wide portion of the spectrum of options, with circumareolar and inverted-T techniques pushed to the periphery on each side. Nevertheless, there are instances where the latter two are better choices. Although circumareolar techniques are not effective for mastopexy alone, they are valuable when combined with augmentation to either modestly raise nipple position or to reduce large areolar diameters. Vertical mammaplasty does not allow sufficient skin removal in the typical massive weight loss patient, whereas inverted-T methods do.

The author opines that "adequate lower pole parenchymal resection is needed to prevent a 'mastopexy-wrecking' bulge" with vertical mastopexy. Although debatable, this practice should definitely be avoided when an implant is included because its soft-tissue coverage will be compromised. A sinus tract or extrusion is possible because the implant lies just deep to the pillar and skin closure. It is also stated that high revision rates for vertical mastopexy are an inherent disadvantage of the technique. Revision rates with vertical mastopexy are actually quite low after the top of the learning curve is reached.

The article asserts that inverted-T methods have a long vascular pedicle with a random blood supply that is further compromised by implants. However, inverted-T methods combined with implants do not require the same degree of pedicle isolation as a breast reduction. The implant is placed in a subpectoral plane superiorly. Skin flaps are elevated just enough to transpose the nipple position and remove excess skin. There is minimal risk to nipple and areola vascularity in this scenario. Staging the procedure, a suggested alternative, is rarely necessary. Along the same lines, the author's Figure 9 shows that inferior pedicles in inverted-T procedures are more subject to compression and lower pole thinning compared with vertical mastopexy procedures. When used only as a skin-tightening procedure combined with augmentation, there is no real difference between the two in this respect.

The author states that inverted-T reduction and mastopexy patterns can safely be revised using a vertical technique. This is true and useful in many instances. However, secondary inverted-T reductions typically exhibit considerable excess volume laterally, bottoming-out, and shape

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asymmetry. Using the full scar pattern provides an opportunity to address all of these issues without increasing the original scar burden. It also provides a chance to improve scar quality where objectionable.

It is also stated that matching a nonaugmented breast is notoriously difficult and treating asymmetry by varying the mastopexy technique from one side to the other can be challenging. The solution proposed for the former is to place implants on both sides and resect the volume differential. An obvious alternative is to use different size implants, a practice that works very well and is no less accurate. Varying mastopexy technique to use either a unilateral approach (more common) or two different methods (less common) is also a reliable practice.

Three of the patient examples invite comment. The patient in Figure 2 has undergone what has been termed the "plus-minus" technique of placing an implant after excising tissue. The choice of adding an implant with its lifetime device risks to a breast reduction is questionable. In any event, the result shown is not demonstrably superior to that of a vertical reduction alone. Figures 3 and 4 show the vertical incision extending onto the upper abdomen. The author states that this may be impossible to avoid. However, terminating the skin design above the existing crease at a distance proportionate to the preoperative breast size reliably avoids this problem. When redundant skin does result at the base of the breast, it can be removed by a short horizontal excision without extending the incision onto the abdomen. Finally, the postoperative tuberous breast example in Figure 6 shows a high nipple position and centrally flattened lower breast contour. Both are consequences of using a vertical mastopexy technique when there is no excess skin and only marginally low nipple position to begin with. The literature on tuberous breast deformity convincingly argues for circumareolar techniques as the most efficacious method for treating this problem.

The author defines complications quite liberally and reports high figures for the procedures surveyed. However, size asymmetry, scar deformity, persistent ptosis, and implant rippling should not be included as complications. They represent aesthetic morbidity for sure, but also the limitations of these procedures. Most secondary breast surgery is performed to improve aesthetics, not for true surgical complications. This distinction is important if we are to have a common language for discussing these procedures.

The conclusion of the article is that complication rates for vertical augmentation/mastopexy are less than the cumulative rates for each procedure alone, and that combined procedures can be performed safely in a single stage. This is the true take-home message.

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