
Discussion

Breast Deformity Caused by Anatomical or Teardrop Implant Rotation

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The phenomenon of anatomic implant rotation is well described in this study, and enough evidence is presented to support the author's conclusions. The size of the study population is adequate, and a single-surgeon study simplifies data interpretation. The variety of implant types included in the study suggests that anatomic implant rotation is caused by a generic shape difference compared with round implants and is not the fault of one particular device. Although most of the author's experience has been with low-height implants, this phenomenon also occurs in vertically tall anatomic implants (Fig. 1). Although only 25 percent of patients in this study had subpectoral implants, one can logically argue that pectoralis activity is more likely to increase than decrease the chance of rotation. The role of overfilling of the implants by an average of 40 cc on the potential for implant rotation is unclear. The mean size of implants used was approximately 390 cc. Therefore, overfill may not have been more than 10 percent, an amount unlikely to make the implants much stiffer or more globular in shape, themselves factors with unknown implications with regard to implant rotation. Neither size nor texturing of the implant was shown in this study to correlate with implant rotation.

Physician designers and manufacturers have coined the terms "anatomic" and "teardrop" to both distinguish these implants from round types and also perhaps to subtly imply ipso facto that they are somehow superior. Besides the potential problems described in this report, clear advantages of anatomic implants have never been well demonstrated in any publication or meeting pre-

sentation that I have seen. Anatomic implants often look different but not necessarily better or more natural than round implants. They can actually look quite "unanatomic" in some patients, producing a long breast when a vertically tall implant such as the McGhan style 468, for example, is used. Anatomic implants such as the Mentor Contour Profile where the y axis is shorter than the x axis can produce breasts that appear short and wide. Although these negative consequences can occur by the indiscriminate application of anatomic implants, it would seem logical that there are specific subsets of patients who might benefit from these variant designs when they are thoughtfully selected. Using the same examples, patients with low breast position and a narrow chest might actually look better with a more vertically long implant than with round implants. Similarly, a patient with a short, wide chest may benefit from the short wide implant type. Recognition of these specific conditions may allow the surgeon to achieve a better than usual result. However, for most patients, superiority of anatomic implants is unproven.

A study that compares the results of matched body types treated with round versus anatomic implants is desperately needed to determine whether there are benefits of using anatomic implants worth the additional risks. Such a study could determine whether there are truly shape advantages related to implant type, or whether an anatomic implant would permit a larger augmentation than a round type in the same setting with less tendency to cause an artificial appearance.

This study arms the clinician with scientific

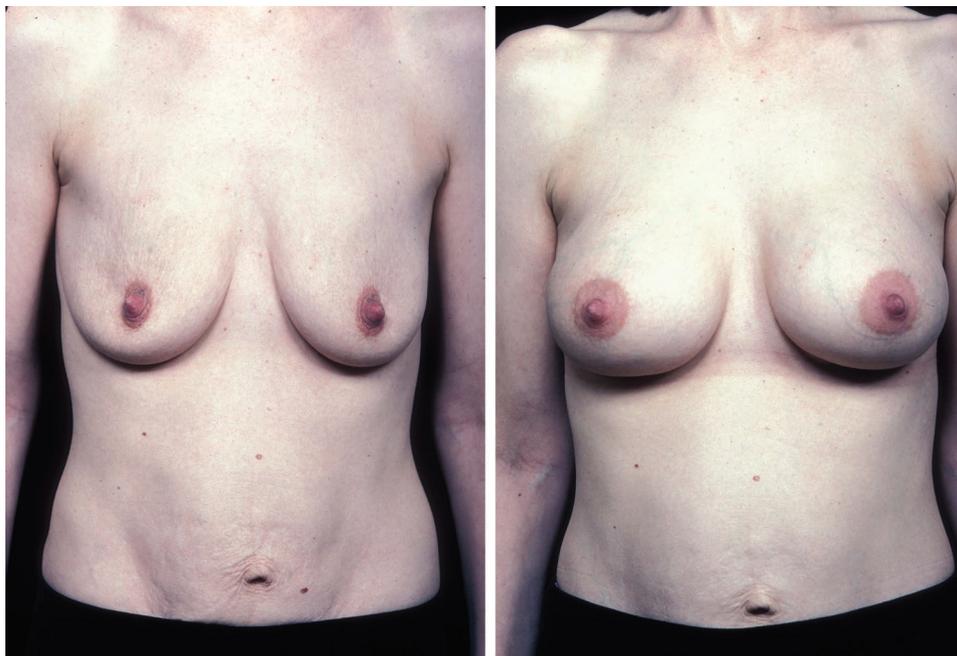


FIG. 1. (Left) Preoperative view of a patient with postpartum atrophy, a vertically long chest, and low breast position. Vertically tall McGhan style 468 textured implants were selected to specifically address this individual patient's breast and chest configuration. (Right) The patient is shown postoperatively. Both implants have rotated on the z axis to a horizontal orientation.

evidence to caution patients to whom manufacturers (and some practitioner Web sites) market directly and hype the visually appealing concept of a teardrop implant. Surgeons who feel pressured to embrace the anatomic implant concept should know that patients drop the subject quite readily when completely informed about these devices. Explaining the significant potential for implant rotation and that additional surgery may be required helps keep the verbally less appealing "round" implant option (who wants a round breast?) on equal footing.

What this study tells us most clearly is that using anatomic implants in the majority of patients will complicate the surgeon's practice by increasing the number of postoperative problems beyond those already seen from capsular contracture, implant position asymmetry, rippling, and incorrect implant size selection. Given the variables of incision location, pocket plane, implant filler type, and implant size, adding implant shape as another option can be expected to detract from the goal of achieving an ideal result as much as improving the prospect of achieving it. The number of suboptimal results and revisions will increase as a result of implant rotation problems associated with indiscriminate use of anatomic implants.

The optimal approach in using anatomic im-

plants lies somewhere between using them for most patients versus only for a selected few, but probably the fewer the better. Using anatomic implants on a small subset of breast augmentation patients may improve overall results in difficult patients and minimize the total occurrence of rotation problems in a surgeon's practice. However, just like the case of vertical scar mammoplasty where there is the promise of better shape at the expense of a higher revision rate, these devices may not prove universally popular in the long term.

Anatomic implant design raises other issues not addressed by this study. Does the asymmetric shape distribute pressure within the shell unevenly in a way that increases the deflation rate? One patient in my practice exhibited bilateral premature implant deflation in which the shell defect was found at the peak of the vertically tall implant on both sides. Although anatomic implants may be here to stay, more studies are needed to elucidate both the advantages and drawbacks of these devices. Dr. Baeke has taken the first step in this direction and it is hoped that others will follow.

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