A Comparison of Naturally Shaped and Round Implants

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Background: The relative merits of round versus naturally shaped breast implants continue to be a subject of debate.

Objective: The results of augmentations with McGhan Style 110 round textured noncohesive-gel–filled implants were compared with those using McGhan Style 410 FM naturally shaped, textured cohesive-gel–filled implants in 2 similar groups of patients.

Methods: Patients in each implant group ranged from 23 to 60 years of age; the average of each group was similar. To ensure continuity of follow-up, only patients from southern Switzerland were chosen for the study. The average implant size in the Style 110 group was 216 cc; the average implant size in the Style 410 group was 232.8 g. All implants were placed in the subglandular position, in front of the muscle. Patients were monitored after operation for a minimum of 4 years. Results were documented photographically from 1 year to a minimum of 4 years after operation.

Results: In the Style 410 group, 49 of 50 breasts were normal Baker I, 5 years after operation; 1 breast had become hard without deformation (Baker II). In the Style 110 group, all breasts were normal Baker I, 5 years after operation. On photographic evaluation, it was nearly impossible to distinguish between the 2 types of implants.

Conclusion: Excellent results can be achieved with either type of implant. With appropriate placement, the Style 410 matrix can provide the patient who so desires additional options with respect to medial fullness, lateral protrusion, and upper pole filling.

Seven years ago, the McGhan Style 410 silicone implant was introduced in Europe. This implant was naturally shaped and contained a more cohesive gel than the earlier models. The goal of this design was to provide a naturally shaped alternative to round breast implants that would more closely mirror the natural aesthetics of the breast. The silicone fill used in the implant was developed to simulate the appearance and feel of natural breast tissue, so that the implant would not only look more natural but also feel more natural. To investigate the effectiveness of this implant in clinical practice, I compared 50 breasts augmented with the McGhan Style 110 round implant, containing noncohesive gel, and 50 breasts augmented with the naturally shaped McGhan Style 410 implant filled with cohesive gel.
Patient Selection

Patients ranged in age from 23 years old to 60 years old. The average age of patients in each group was similar. Among patients in the Style 410 implant group, the average age was 39.2 years old; only 2 patients in this group were under age 30. The average age of the Style 110 implant group was 42.6 years old. To ensure continuity of follow-up, only patients from southern Switzerland were selected for the study.

Prostheses

For the Style 410 group, I used 20 implants weighing 210 g (the smallest available at that time), 22 weighing 240 g, and 8 weighing 270 g. The average implant size was 232.8 g. For the Style 110 group, I used 7 different sizes between 120 cc and 300 cc, of which more than half were between 180 cc and 210 cc. The average size was 216 cc. Thus the average sizes of the 2 implant groups were comparable.

Technique

All procedures were performed by the author. All implants were placed in the subglandular position, in front of the muscle. For patients in the Style 410 group, in 40 breasts an inframammary incision was made. In 10 breasts, entry was through a periareolar incision using the round block technique (i.e., a periareolar mastopexy). Two scars were treated with intrallesional cortisone because they had become hypertrophic. I also offered to correct 2 periareolar round block scars. For patients in the Style 110 group, an inframammary incision was used in 22 breasts, a lower periareolar incision in 18 breasts, and a periareolar incision by use of the round block technique in 10 breasts.

Table. Baker classification of augmentation results

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>% of patients</th>
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<tbody>
<tr>
<td>Grade I</td>
<td>Normally soft, natural appearance, very good result</td>
<td>99%</td>
</tr>
<tr>
<td>Grade II</td>
<td>Natural appearance, despite palpable firmness, good result</td>
<td>1%</td>
</tr>
<tr>
<td>Grade III</td>
<td>Firm with visible distortion; reoperation indicated</td>
<td></td>
</tr>
<tr>
<td>Grade IV</td>
<td>Obvious spherical distortion; reoperation indicated</td>
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Postoperative Follow-up

Patients were followed up at 1 day, 1 week, 2 weeks, 1 month, 3 months, 6 months, 1 year, and a minimum of 4 years after surgery. In the Style 410 group, 14 patients were followed up at 5 years and 11 after 4 years.

In the Style 110 group, follow-up extended from 5 to 9 years, with an average follow-up of 7 years. Results were documented by photographic evidence from 1 year to a minimum of 4 years after operation.

Results

The classification of the results was done according to the Baker criteria (Table). Among the Style 410 group, 49 breasts (98 percent) were normal Baker I after 5 years (Figures 1-8; 9, A-C; G-I; 10, G-L); 1 breast (2%) had become hard without deformation (Baker II). In the Style 110 group, all 50 breasts were normal Baker I after 5 years (Figures 9, D-F; 10, A-F; and 11, A). Thus, after 5 years there was not a significant difference between the 2 groups with respect to the incidence of capsular contracture. Among patients in the Style 110 group, who were followed for as long as 9 years, longer-term follow-up revealed that the breasts became hard without deformation (Baker II) in 11 patients after 6 years, in 3 patients after 7 years, in 2 patients after 8 years and in another 2 patients after 9 years.

Overall, results in both groups were excellent, since both Baker I and II are clinical standards denoting good results. On photographic evaluation, it was almost impossible to distinguish between the 2 types of implants (Figures 9 to 12). Where the implant was relatively small, the existing breast a good size, and the skin not too thin, the results were excellent using either style. Otherwise,
**Figure 1.** A, A 42-year-old patient with very moderate breast ptosis. The distance from the sternal notch to the nipple was 22 cm. B, Postoperative results 1 year after augmentation with 240-g Style 410 FM implant. C, Result after 5 years follow-up are persistent. The 5-cm mediolateral inframammary scar was no longer visible.

**Figure 2.** A, Preoperative view of a 37-year-old patient with small breasts lacking upper pole fullness. The distance from the sternal notch to the nipple was 18 cm. B, Postoperative result 1 year after augmentation with Style 410 FM implant, 240 g. C, Results 5 years after operation are persistent. The 5-cm mediolateral inframammary scar placed 1 cm below the primary line is well located and of good quality. In a patient like this, it is very important to lower the inframammary line to place an implant of this size. Otherwise, you would overcorrect the upper pole fullness.
Figure 3. Preoperative view of a 30-year-old woman with small breasts lacking upper pole fullness. The distance between the sternal notch and the nipple was 22 cm. B, Postoperative view 4 years after augmentation with Style 410 FM implant, 270 g. There is a 5-cm scar 1 cm below the primary line. Note the upper natural fullness.

Figure 4. A, Preoperative view of a 25-year-old woman with small breasts. The distance from the sternal notch to the nipple was 17 cm. B, Postoperative view 4 years after augmentation with a Style 410 FM implant, 240 g. C, Results 4 years after augmentation. There is a 5-cm scar 2 cm below the primary line that is not visible. Note the lateral protrusion and the medial and upper fullness.
Figure 5. A, Preoperative view of a 31-year-old woman with a tuberous breast. B, Postoperative view 1 year after augmentation with Style 410 FM, 210-g implant. Entry was made through a periareolar round block mastopexy. The periareolar scar is not visible. The exact location of the new inframammary fold was decided intraoperatively after modification of the breast parenchyma through radial incisions in the lower quadrants. Periareolar round block suture with 2-0 nylon. C, Result at 4 years postoperatively is persistent, with harmonization of all quadrants. Because of the patient’s sun-tan, the scar is noticeable as a white line.

Figure 6. A, Preoperative view of a 23-year-old woman with a tuberous breast smaller than that illustrated in Figure 5. B, Postoperative view 1 year after augmentation with Style 410 FM, 240-g implant, using same technique as in Figure 5. The periareolar scar is not visible. The results are comparable with those in Figure 5, although a larger implant was used. C, Results at 4 years’ follow-up are persistent.
Figure 7. **A**, Preoperative view of a 47-year-old woman classified as Baker III, bilaterally, 4 years after implantation of smooth implants. **B**, Postoperative view 1 year after total capsulectomy and replacement of the smooth implants with Style 410 FM, 210-g implants. **C**, Results at 5 years’ follow-up are Baker I bilaterally, with upper pole correction.

Figure 8. **A**, Preoperative view of a 51-year-old patient classified as Baker III, bilaterally, 6 years after implantation of smooth prostheses. **B**, Postoperative view 6 years after total capsulotomy and replacement of prostheses with Style 410 FM, 210-g implants.
the borders of the implant were perceptable by both sight and touch. All patients were happy with the results obtained and said that they would repeat the procedure and recommend it to others. There were no instances of infection, hematoma, rippling, wrinkling, or other complications.

It should be noted that in 2 patients augmented with Style 410 implants, the operation was a secondary procedure (Figures 7 and 8). Smooth implants were replaced, after total capsulectomy, with 4 Style 410 FM 210-g implants. At 5 years’ follow-up, the results were Baker I. Similarly, in 1 patient with Style 110 implants the operation was a secondary procedure; as in the preceding cases, smooth implants were replaced, after total capsulectomy, with 2 Style 110, 240-cc implants. At 7 years’ follow-up, the results were Baker II.

Discussion

In a previous article, I demonstrated the reliability of textured implants, which has also been confirmed by other investigators. Hakelius and Ohlsen and McCurdy demonstrated that the capsular contracture rate of textured implants is less than that of smooth implants. In this series, before the Style 410 implant came on the market, I used round textured implants with soft silicone with good results. With appropriate placement, the new Style 410 implant offered to patients who so desired advantages such as medial fullness, lateral protrusion, and upper pole filling. It should be noted that these advantages pertain only to naturally shaped textured implants with cohesive gel fill, and not to naturally shaped, saline solution–filled breast implants. However, I did not abandon use of the round implants, because not every patient wanted upper pole filling.

In 1999 when the Style 410 MM implant, which has a rounder template than the style 410 FM implant, came on the market, I began using it in place of the round implant. The MM implant enabled me to achieve predictable results with more moderate upper pole filling than the FM implant, while achieving lateral protrusion and medial fullness that were not attainable with the older round implant. The patients illustrated in Figures 9A, 10D, 11, and 12 were augmented with the Style 410 MM implant and were not part of the series reported here.
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**Figure 10.** Comparative results using different implants. **A, C, E,** Preoperative views of a 45-year-old patient. **B, D, F,** Postoperative views 5 years after augmentation with a Style 110, 150-cc implant. Today, I would use Style 410 MM, 160-g implants instead. **G, I, K,** Preoperative views of a 37-year-old patient with breast asymmetry. **H, J, L,** Postoperative results after augmentation with Style 410 MM, 240-g implants. Note the correction of the asymmetry.

**Figure 11.** Comparison of 4 different augmentations in 4 different patients. **A,** Style 410 FM, 270 g; **B,** Style 110, 270 cc, round block mastopexy; **C,** Style 110, 240 cc (today, I would use Style 410 MM, 245 g); **D,** Style 410 MM, 240 g.
Figure 12. A, Preoperative views of a 18-year-old patient with breast asymmetry. The patient wanted a correction and augmentation with the least possible scarring. B, Postoperative results 1 month after periareolar augmentation of the right breast with a Style 110, 120-cc implant (at the time of operation, the only implant of this size available in Switzerland), and improvement of the left breast using a lower hemi-circular areolar incision and augmentation with a Style 410 MM 185-g implant after modification of the parenchyma with radial incisions and additional round block suture.

Conclusion

The Style 410 matrix enables the precise plastic surgeon to select from a larger menu of options for all types of breast. Its fixed dimensions provide more predictable results.

References