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Correction with autologous fat grafting for contour changes of the breasts after implant removal in Asian women

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KEYWORDS
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Summary *Background:* Patients who were diagnosed with symptomatic capsular contracture or with safety concerns for the implant would be often reluctant to accept the operation of implant exchange, choosing instead removal without exchange or taking other options to rebuild their breasts. These patients may benefit from augmenting the overlying soft tissue of the breasts with autologous fat grafting after removing the prosthesis.
Objectives: A retrospective analysis of the patients receiving fat grafting for breast augmentation after implant removal was performed in this study.
Methods: Between March 2011 and November 2013, 27 patients receiving autologous fat grafting after breast implant removal. Objective evaluation was made by measuring the change in breast thickness with ultrasonography taken before and after the treatment. Aesthetic evaluation was performed using a 5-point Likert scale for patient satisfaction and comparing preoperative and postoperative digital photographs for physician satisfaction.
Results: The mean breast thickness change was 13.1 mm (SD = 3.3) which was an increment by 154% in comparison to the averaged breast thickness of 8.5 mm after implant removal. The results of patient satisfaction and physician satisfaction were 16.3 (SD = 1.2) and 16.7 (SD = 1.6). Complications included recipient site infection, fat necrosis, and small areas of induration. The overall complication rate was 22.2% (6 of 27).
Conclusion: Autologous fat grafting is beneficial for the correction of deformed breasts after implant removal. With its preferential fill qualities, the wide cleavage and excessive upper pole fullness associated with existing implants can also be corrected.

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Introduction

Breast augmentation with implants was the most commonly performed cosmetic surgical procedure in 2012 and the second most common surgical procedure in 2013 according to data obtained from the American Society for Aesthetic Plastic Surgery.[1]

Despite obvious progress has been made in the past decades, implant-related complications following breast augmentation keep on challenging cosmetic surgeons.[2,3] Studies reveal that the longer the implants are in place, the greater the accumulative risk of developing implant-related problems such as capsular contracture, implant rupture, breast discomfort and/or psychological problems.[4–7]

Moreover, the pressure resulted from the implant volume can lead to soft tissue thinning of the breasts and atrophy of the pectoral muscles in the long term. Aging is another precipitating factor of soft tissue thinning in the patients with long history of breast implantation. Besides, the excessive upper pole fullness and wide breast cleavage can make their breasts looked unnatural.[8]

As a result, removal of a breast implant is indicated either due to symptomatic contracture, implant rupture, safety concern, or patient's desire to correct the unnatural appearance.[9]

Once the patients were diagnosed of the above impressions and decided to undergo implant removal, they would be often reluctant to accept the operation of implant exchange because of concerns about the implants.[10] Autologous fat grafting can benefit the scooped and flaccid breasts when the patients were dissatisfied with the appearance of their breasts after implant explantation.[9]

It appears that no study has addressed long term outcomes of the patients receiving autologous fat grafting for breast augmentation in patients after implant removal. A retrospective analysis of the patients receiving the procedure for breast augmentation after implant removal was performed in this study.

Materials and methods

We retrospectively reviewed the charts of 33 consecutive patients who underwent fat grafting for breast augmentation after removal of the breast implants between March 2011 and November 2013. All the surgical procedures were performed by the author. Indications for breast implant removal included capsular contracture, physical discomfort and safety concern over the implant. After exclusion of patients with inadequate follow-up time (<12 months), including those lost to follow-up, 27 patients were enrolled in the study. All patients provided written informed consent and had been advised of the potential complications of autologous fat grafting for breast augmentation. They all promised to conduct routine follow-up and undergo routine ultrasonography after treatment.

Physical examination and breast ultrasonography were performed routinely at 3,6 and 12 months follow-up visits to determine potential complication including infection, fat necrosis, indurations and/or calcification after treatment. Clinical data on all postoperative complications were collected throughout follow-up for all patients. If a mass was palpable during routine physical examination or observed with ultrasonography, magnetic resonance imaging (MRI) was performed for further evaluation.

Aesthetic assessment was performed using preoperative and postoperative digital photographs with frontal, lateral and bilateral oblique views for each patient. Follow-up photographs were taken at each return visit after completion of the treatment. For the evaluation of aesthetic outcomes, a questionnaire was used to assess each patient's satisfaction and graded according to a five-point scale as very satisfied (5), satisfied (4), fair (3), unsatisfied (2), and very unsatisfied (1). The results of physician satisfaction were obtained by an independent physician who did not participate in the medical care of the patients. According to the photographs taken preoperatively and postoperatively, the results were also graded as very good (5), good (4), fair (3), poor (2), and very poor (1). Categories for patient self-evaluation and physician assessment included breast size, shape, symmetry and proportion to the body. A final combined score (maximum of 20 points, minimum of 4 points) was calculated for each patient and the 12-month results were included.

Ultrasonography was performed in all patients before treatment and at postoperative follow-up visits. After complete examination of the breasts, measurements of the thickness at 3- and 9- o'clock direction on the areolar margin of both breasts were recorded. The 4 anchoring points of thickness measurement were defined as L3, L9, R3 and R9 (Figure 1). The change in breast thickness at 12-month was recorded and compared.

Implant removal

The breast implant was removed via periareolar, transaxillary or inframammary fold (IMF) approaches after the injection of local anesthetic solution (1 mL epinephrine in 100 ml 1% lidocaine). Owing to the inevitable surgical trauma and bleeding which are unfavorable to the survival of a fat graft, we implemented 2-stage operations. Almost all of the patients underwent fat grafting for breast augmentation several weeks after implant removal.

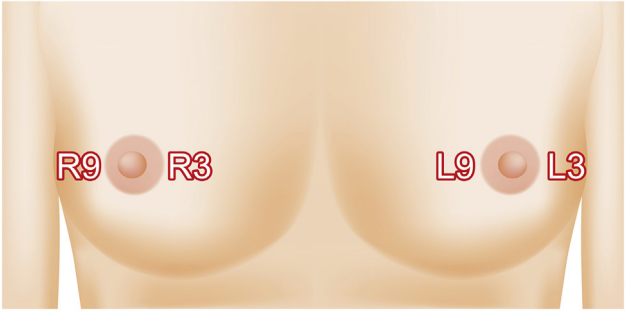

Figure 1 To increase the accuracy in comparison of preoperative and postoperative measurements of breast thickness, four anchoring points at 3- and 9- o'clock direction over areolar margins of left and right breasts are defined as L3, L9, R3 and R9.