CASE REPORT

Goldilocks mastectomy for obese Japanese females with breast ptosis

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Summary The Goldilocks mastectomy is a method that uses redundant mastectomy flap tissue alone to create a breast mound in female American patients with macromastia. Goldilocks mastectomy was performed for obese Japanese females with breast ptosis, and its indications were considered for Japanese female patients. This report presents the results of five patients who underwent Goldilocks mastectomy, including one with bilateral breast cancer. The average age of the patients was 72 years (range: 67–76 years). The body mass index (BMI) was more than 25 in all the cases. Four patients had invasive ductal carcinoma, and one patient had noninvasive ductal carcinoma of bilateral breasts. The cosmetic results were found to be good in two cases [a patient with bilateral breast cancer and a severely obese patient (BMI = 39)]. The cosmetic results in the other three cases were poor. Although the reconstructed breast size was small, this procedure resulted in better cosmetic results than what would be achieved with the usual method of mastectomy for Japanese patients with bilateral breast cancer and severely obese Japanese patients.

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1. Introduction

The Goldilocks mastectomy is a method that uses redundant mastectomy flap tissue alone to create a breast mound in female American patients with macromastia. The breast size of most Japanese females is relatively small. Therefore, there are few opportunities to use this procedure for Japanese patients. However, even in Japanese patients, the dog-ear deformity can be a problem, especially in
obese patients or those with breast ptosis after mastectomy. Goldilocks mastectomy was performed on five obese Japanese females with breast ptosis, and good cosmetic results were obtained in two cases. This report presents the indications for this procedure in Japanese females.

2. Case reports

Five patients who did not want to undergo a standard reconstruction, including one with bilateral breast cancer, underwent the Goldilocks mastectomy at Mie University Graduate School of Medicine, Edobashi Tsu, Mie, Japan.

2.1. Preoperative drawing

During this procedure, the inframammary fold is first drawn on the skin with the patient in the standing position. After that, the lines for the excision of the nipple–areola complex or for the excision of the nipple–areola complex and the skin above the tumor requiring excision are drawn with the patient in the supine position. These skin incision lines were extended to the outer and inner sides in a gently sloping manner until the lines crossed the inframammary fold (Fig. 1A).

2.2. Surgical procedure

First, the area between the skin incision lines and inframammary fold marked prior to the surgery was subjected to de-epithelialization (Fig. 1B). After de-epithelialization, a skin incision was made, and a skin-sparing mastectomy was performed. During a skin-sparing mastectomy, it is important to retain the subcutaneous fat thickness in the area far from the tumor, because the subcutaneous fat will be a part of the newly reconstructed breast. The redundant de-epithelialized skin flap was then secured to the chest wall using absorbable sutures (Fig. 1C). After a suction tube was placed under the skin, the skin was sutured, and a small breast was reconstructed using the redundant mastectomy flap tissue (Fig. 1D).

2.3. Case 1

The first case was a 76-year-old female, whose height and weight were 149 cm and 57 kg [body mass index (BMI) = 25.7], respectively, with bilateral breast cancer.

Figure 1  The surgical procedure: (A) preoperative drawing; (B) skin de-epithelialization; (C) fixation of the redundant de-epithelialized skin flap to the chest wall; and (D) reconstruction of the small breast using redundant mastectomy flap tissue.
noninvasive ductal cancer. Although the nipple–areola complex was excised and the reconstructed breast size was small, the cosmetic result was good because the bilateral breasts were symmetrical (Fig. 2).

2.4. Case 2

The second case was a 68-year-old female, whose height and weight were 151 cm and 89 kg (BMI = 39), respectively, with right breast cancer (T2N0M0, Stage IIA). Although the nipple–areola complex was excised, and the reconstructed breast size was smaller than the left breast, the cosmetic result was better than would have been obtained with the conventional mastectomy (Fig. 3).

2.5. Case 3

The third case was a 67-year-old female, whose height and weight were 156 cm and 61 kg (BMI = 25.1), respectively, with left breast cancer (T1cN1M0, Stage IIA). Because the reconstructed breast size was much smaller than the right breast, the cosmetic result was considered to be poor.

2.6. Case 4

The fourth case was a 76-year-old female, whose height and weight were 160 cm and 80 kg (BMI = 31.2), respectively, who had right breast cancer (T1cN0M0, Stage I). She had delayed wound healing. Because the reconstructed breast size was much smaller than the left breast, the cosmetic result was considered to be poor.

2.7. Case 5

The fifth case was a 73-year-old female, whose height and weight were 153 cm and 60 kg (BMI = 25.6), respectively, with right breast cancer (T1cN1micM0, Stage IIA). Similar to Case 4, she also had delayed wound healing. Because the reconstructed breast size was much smaller than the left breast, the cosmetic result was considered to be poor.

2.8. Patient satisfaction

Of the two patients who were considered to have had a good cosmetic result, the bilateral case (Case 1) was very much satisfied with the cosmetic result. However, satisfaction of the severely obese patient (Case 2) was not high, as she thought that she had received breast reconstruction. By contrast, three patients of poor cosmetic result (Cases 3, 4, and 5) were thought to have received mastectomy, and they did not complain about the cosmetic result.

3. Discussion

Breast-conserving surgery has become the standard procedure for the treatment of early breast cancer. However, there are patients with early breast cancer who are not indicated for breast-conserving surgery. If a standard mastectomy is needed, a poor cosmetic outcome might occur due to the presence of redundant skin in obese females with strong breast ptosis. This is not a problem with regard to the oncological outcome; however, some patients are concerned about the type of incision or surgical procedures because of the potential for poor cosmetic results and a decrease in their quality of life.

The Goldilocks mastectomy is a method that makes use of the excessive skin that remains after a skin-sparing mastectomy to form the reconstructed breast. The Goldilocks mastectomy was developed by Drs Richardson and Ma to provide patients with macromastia an option that takes the best features of having and not having reconstruction and combining them into a single procedure instead of undergoing the conventional mastectomy. The patients with extremely large breasts are especially well suited for this procedure, whereas patients with small breasts are not suitable candidates.

The breast size of most Japanese females is relatively small. Therefore, few Japanese patients are indicated for this procedure. In fact, the cosmetic results of Cases 3, 4, and 5 in the present report were very poor because the reconstructed breast size was very small. These cases with ordinary obesity and breast ptosis were not well suited for this procedure. However, in the patient with bilateral

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Figure 2  Case 1: (A) preoperative photograph; (B) photograph taken 7 months after the operation.
breast cancer (Case 1), the cosmetic result was good, because the breasts were symmetric, although the nipple—areola complex was excised and the reconstructed breast size was small. Because the patient satisfaction was also high, bilateral breast cancer patients with obesity and breast ptosis seem to be well suited for this procedure. By contrast, in a severely obese patient (Case 2), the cosmetic result was better than would have been obtained with a conventional mastectomy; however, her satisfaction was not high. Therefore, whether this procedure is appropriate for severely obese patients is unclear. At least by showing the photograph of a patient who underwent this procedure, the interest of the patient who is recommended to undergo the procedure can be understood.

The opportunities to perform the Goldilocks mastectomy in Japanese females with breast cancer are limited, because the procedure is not indicated for most patients. However, for the patients with bilateral breast cancer or severely obese patients, this procedure may provide a better cosmetic outcome than a conventional mastectomy.

References