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Case Report
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Nipple-Sparing Goldilocks Mastectomy for Breast Cancer in Elderly: A Case Report

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Abstract

Breast reconstruction represents an essential component of Breast Cancer (BC) treatment when mastectomy is indicated. However, comorbidities (i.e. diabetes, immunosuppression, cardiovascular disease etc.), elderly, smoking and radiotherapy could impact on complication rates and surgical choice making standard reconstruction challenging. The Goldilocks Mastectomy (GM) is a good alternative in patients with macromastia and ptotic breast whose clinical status contraindicates more complex surgery. We report the first case of a bilateral one stage nipple-sparing GM in a 76-year old patient with bilateral BC.

Introduction

Despite the progressive de-escalation of Breast Cancer (BC) surgery, in 20% to 40% of cases mastectomy is still indicated and most patients ask for immediate breast reconstruction as the only way to restore their original anatomy and, hence go back to ordinary life [1-3]. Modern trends in immediate breast reconstruction show that each patient undergoing mastectomy has several options for immediate reconstruction i.e. implant-based or autologous reconstruction or a combination of both solutions. However, all of these techniques show specific complications and sometimes longer operating time; recent studies have demonstrated that obesity, smoking, previous or planned radiotherapy, elderly and multiple comorbidities can strongly increase the complication rate or affect the surgical choice highlighting the importance of a careful patient selection [4].

On one side there are some categories of patients like obese, diabetic, previously irradiated patients or patients with other comorbidities (immunosuppression, vascular insufficiency, cardiovascular disease) who are at higher risk for complications, i.e. skin necrosis, wound infection, fat necrosis, donor-site complications, reconstruction failure or anesthetic complication due to longer operations [4-6]. On the other side there are patients being frailer women like older for whom the idea of a more complex surgery, creates fear and anxiety to the point that they prefer the simpler solution even it means having a flat chest [7]. For these categories of "delicate" patients, mastectomy without any reconstruction has been the most viable option, granting quicker time of recovery and lower complication rate. The (GM) was introduced by Richardson and Ma in 2012 as "a middle road between formal reconstruction and the amputated appearance associated with mastectomy without reconstruction" [8]. This technique employs a skin-sparing mastectomy through Wise pattern incisions and utilizes the residual cutaneous mastectomy flaps to create a breast mound. For those women who desire female appearance after mastectomy without using prosthetic devices or autologous flaps, or in case of contraindications to more complex reconstruction, the Goldilocks technique can be effectively proposed. The ideal candidate for a GM is a woman with macromastia and high-grade breast ptosis, previous studies have reported well defined indications [6,9-15]. This is the first case of Godilocks mastectomy in elderly, older patients are always more reluctant to or less fit to face more complex surgery, we want to show our results in this setting. We present the case of an old patient who underwent bilateral mastectomy for bilateral invasive carcinoma.

Case Presentation

A 76-years-old woman found after breast self-exam a right breast lump (Figure 1a). Triple assessment demonstrated a bilateral BC being 45 mm on the right upper quadrant with a palpable axillary node and 25 mm with a 4 mm satellite on the left inner quadrant on clinical examination. On core biopsy the two tumors were Infiltrating Ductal Carcinoma (IDC) and showed similar biology: grade 2, hormone-responsive, ki67 24%, c-erbB2 negative on the right and grade 3, hormone-responsive, ki67 34% and c-erbB2 1+ on the left. Considering the age, comorbidities (hypertension,

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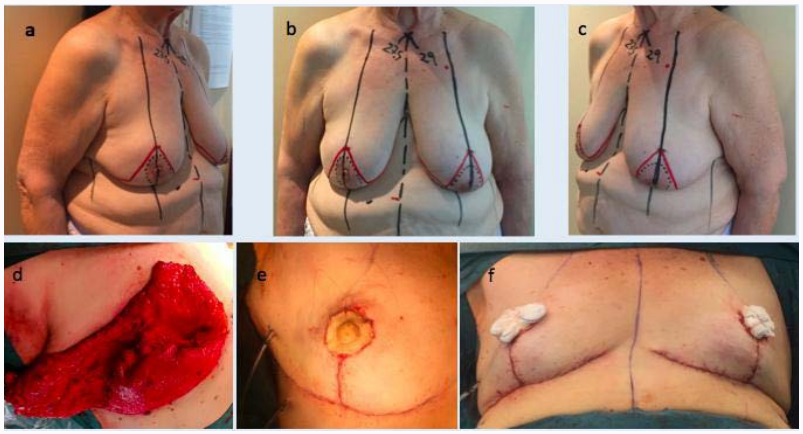

Figure 1: a-c: Preoperative marking, d-f: Intraoperative pictures.

Figure 2: Results at three-month (a-c) and six month (d-f) follow-up.

hypercholesterolemia, hypertensive heart disease) and patient's wishes, the multidisciplinary team decided to perform surgery first and then evaluate the final pathological stage. Due to the high tumor to breast ratio conservative surgery was expected to result in poor cosmetic outcomes and radiotherapy on the left would have given heart toxicity. Hence, mastectomy was indicated as mandatory on the right and was suggested on the left in order to have a better symmetry and reduce radiation toxicity. In addition, axillary dissection and sentinel node biopsy were indicated. She had a grade 4 ptosis, so any immediate one-stage reconstruction would have been challenging. The patient refused implant-based reconstruction because of the fear of complications and of a second surgical procedure after the expander placement, so she accepted the option of a bilateral GM as alternative to simple mastectomy. The patient was marked preoperatively according to the standard Goldilocks technique and the surgical plan was a bilateral mastectomy with nipple-areola complex grafting (Figure 1a-1c). Bilateral mastectomy, right axillary dissection and sentinel node biopsy on the left were performed through the upper part of the Wise pattern.

Intraoperative pathologic evaluations of left sentinel lymph node showed micrometastasis, hence no further surgery was performed, although skin only was grafted the retroareolar margins were tested and resulted negative for cancer cells. Nipple-Areola Complexes (NACs) were preserved and free grafted at the end of mastectomy (Figure 1d-1f). No intra- neither postoperative complication occurred. The patient was discharged on the second post-operative day. At one week post-operative visit, breast and axillary wounds were healed and nipple-areola complexes were viable. At one month post-operative visit, breast wound were completely healed and NACs were vital and perfused.

Final pathological stage was pT2, N2 HR positive, Her2 negative IDC on the right and pT2, N1mic Her2 positive IDC on the left. After multidisciplinary discussion she underwent adjuvant chemotherapy, immune-therapy and loco-regional radiotherapy on the right with no complication reported at one year-follow-up. Patient satisfaction was very high with no delay in starting adjuvant treatment (Figure 2a-2f).

Conclusion

BC surgery affects body image and self-esteem, the breast reconstruction after mastectomy represents a unique chance to improve quality of life at any age [3,16]. To date, the surgeon has a wide range of reconstructive techniques to offer, the most suitable option depends on the single clinical case. The GM could be a good alternative in macromastia and/or breast ptosis when comorbidities, breast conformation, patient's wishes for simple surgery and the need of or previous radiotherapy would increase the complication rate and make standard techniques challenging [6,9-15,17]. Previous studies have already set up the best indications for GM; this is the first case

of nipple-sparing GM as first and single option to treat bilateral BC in elderly. Our experience encourages the application of the nipple-sparing GM in older patient who are candidates to or wish to have a less complex single and immediate reconstructive procedure with a low complication rate.

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