

ONCOPLASTIC MAMMOPLASTY WITH GEOMETRIC COMPENSATION TECHNIQUE IN AN OLDER ADULT PATIENT

Mamoplastia oncoplástica com técnica de
compensação geométrica em paciente idosa

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ABSTRACT

Breast cancer is a neoplasm of high incidence in women, which has been increasingly affecting older adult patients. Conservative breast surgery has changed the history of Mastology. Oncoplastic techniques and breast reconstruction are used in pursuit of better harmony between oncological treatment and cosmetic results. This study reports the case of an older adult patient submitted to oncological mammaplasty with geometric compensation technique.

KEYWORDS: Breast cancer; mammaplasty; mastectomy, segmental; aged.

RESUMO

O câncer de mama é uma neoplasia de grande incidência nas mulheres e cada vez mais tem se apresentado em pacientes idosas. A cirurgia conservadora de mama alterou definitivamente a história da mastologia. As técnicas de oncoplastia e reconstrução mamária são utilizadas buscando uma maior sintonia entre o tratamento oncológico e o resultado estético. Este estudo relata o caso de paciente idosa submetida à mamoplastia oncológica com técnica de compensação geométrica.

PALAVRAS-CHAVE: Câncer de mama; mamoplastia; cirurgia conservadora da mama; idoso.

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INTRODUCTION

In Brazil, except for non-melanoma skin cancer, breast cancer is the neoplasm of highest incidence in women, representing 28% of new cases diagnosed each year. According to the National Cancer Institute (*Instituto Nacional de Câncer* – INCA), the estimate for 2016 was 57,960 new cases.¹

Malignant breast neoplasm has a good prognosis when diagnosed at an early stage and treated properly. The mean survival in the world population is 61% in 5 years.²

Despite having a high number of young patients, breast cancer has been increasingly affecting older adults. A third of the cases occur in women aged 70 years or older.

The principle of breast cancer curative therapy is surgery. Currently, there are several surgical modalities for its treatment. Depending on the relationship breast × tumor, surgery can consist of mastectomy, segmental resection, or simply tumor removal with free margins.^{3,4}

Conservative breast surgery has changed the history of Mastology, demonstrating that breast cancer treatment does not need to be locally aggressive to be oncologically safe.⁵

Randomized studies show that conservative surgery followed by radiotherapy does not change mortality, even though its number of local recurrences is higher than that of radical mastectomy. Currently, the local recurrence rate for conservative breast surgery is approximately 0.5% per year. In addition, it does not change the prognosis and is considered a risk marker that indicates the aggressive tumor biology.⁶⁻¹¹

The concept of radical, mutilating, and curative surgery was questioned over the years, and underwent numerous changes, especially with professor Umberto Veronesi's works, initiated by the Trial MILAN III in 1973, which associated radiotherapy to surgery, in selected cases, with breast preservation.^{7,8}

Conservative breast surgery should consider some basic principles, such as oncological safety, technical viability with adequate cosmetic result, and obligatory complementary radiotherapy.¹⁰⁻¹²

In this regard, we observed the evolution of breast surgery along the years with increasingly less aggressive methods, while keeping the quality of oncological treatment.

The modern concepts of oncoplastic surgery emerged basically in 1999 with reports from Clough in France, Kroll in the United States, and Audrestsch in Germany.¹³ These concepts are new and still in development.

The oncoplastic approach combined with traditional conservative surgery can present advantages in selected cases, particularly those with larger tumors and that need great glandular resection. Also, this approach leads to an increase in free margins, lower reoperation and recurrence rates, and higher patient satisfaction.¹⁴

Despite the huge increase in the rates of conservative surgeries and breast reconstruction over the years, age was the

most important isolated factor in determining whether to suggest reconstruction to the patient or not. The number of women aged 70 years or older to whom breast reconstruction is offered is progressively smaller.¹⁵

With respect to older adult patients, many aspects influence the recommendation and performance of oncoplastic and reconstructive surgeries, including: lack of a standard procedure for the management of these patients, concerns over the higher surgery risk, lack of evidence concerning results, prejudices regarding body image, and less involvement of patients in the decision-making process.¹⁶

In this scenario, the present study reports the case of an older adult patient with breast cancer submitted to oncoplastic mammoplasty with geometric compensation technique.

CASE REPORT

The patient was an 84-year-old woman from Belo Horizonte, Minas Gerais, referred to the Mastology Center of Santa Casa de Belo Horizonte with a breast cancer diagnosis in August 2017.

She had no comorbidities or used continuous medication. Her gynecological/obstetric history included menarche at 13 years of age and 11 pregnancies – 10 normal deliveries and a miscarriage. The last pregnancy happened when she was 35 years old, and she breastfed all her children for at least a year. She never used hormonal contraceptives or post-menopause hormone therapy. Regarding family history, only one of the patient's sister had breast cancer at 75 years of age.

The physical examination revealed a poorly delineated nodule in the junction of the left inner quadrants, with approximately 4.0 cm in diameter, and skin retraction over the tumor. The right breast had no alterations, and the axilla was clinically negative on both sides (Figures 1, 2, and 3).



Figure 1. Front view of the patient with tumor area marked in red.

The patient had mammography in May 2017, which identified a deep nodule in the junction of the left inner quadrants, with approximately 2.0 cm in diameter, and a breast ultrasound in June 2017 that showed an echogenic image of 3.0 cm in the junction of the left inner quadrants.

The patient brought the anatomopathological results and immunohistochemical analysis conducted by an external service. The findings were compatible with invasive ductal carcinoma grade 2, 50% estrogen receptor positive, 50% progesterone receptor positive, HER2 negative, and 10% Ki-67.

The patient underwent surgery in September 2017 as part of the post-graduation program in oncoplastic and reconstructive breast surgery at Santa Casa de Belo Horizonte, Minas Gerais, under the supervision of professors Dr. Douglas de Miranda Pires and Dr. Regis Resende Paulinelli.

Figures 4 and 5 show the preoperative marking. The classic inverted T marking – wise pattern – was chosen. Since the tumor area was in an unusual region, that is, an area not covered by the conventional mammoplasty excision, an oncoplastic mammoplasty technique with geometric compensation and areolar inferior pedicle was used following the one described by Paulinelli et al.¹⁴ A sentinel lymph node investigation with subsequent axillary drainage was performed and the patient underwent reduction mammoplasty with areolar inferior pedicle to symmetrize the contralateral breast.

She used a Portovak safety drain 4.8 for 24 hours, and her dressings were removed seven days after the procedure.

The anatomopathological results of the surgery showed a 2.0 cm tumor, with focally positive posterior margin (enlarged in the intraoperative period with the removal



Figure 2. Right side view of the patient with tumor area marked in red.



Figure 3. Patient left lateral view. Laterality and tumor area marked.

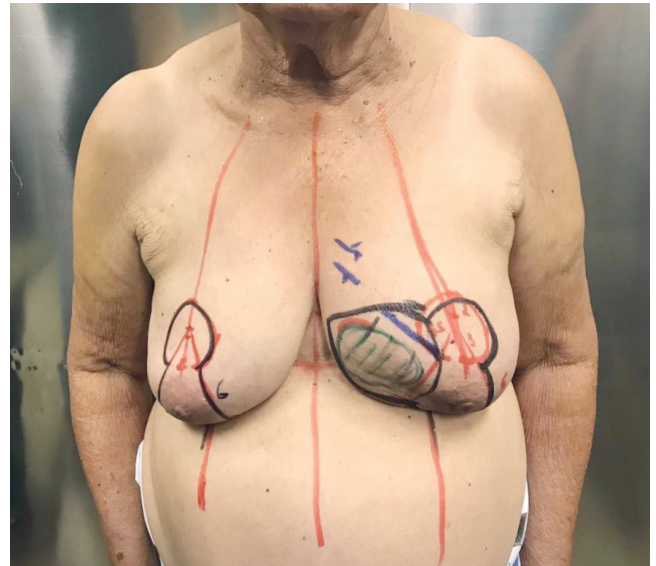


Figure 4. Pre-surgery marking.



Figure 5. Pre-surgery marking.

of part of the pectoralis major), and 2 involved and 11 dissected lymph nodes.

The patient progressed with no complications in the immediate postoperative period, good healing, and esthetic satisfaction. Figures 6 and 7 show the result 30 days after the procedure.

DISCUSSION

Oncoplastic surgery can provide adequate margins even in cases of large tumors, with better cosmetic results; therefore, it increases the indications for conservative surgeries.¹⁷

Regarding tumors located in the lower breast quadrants, the procedure becomes easier since this region has a greater proportion of resected area in conventional reduction mammoplasties,¹⁸ in which resecting tumors and the



Figure 6. 30 days after the procedure.



Figure 7. 30 days after the procedure.

skin covering them is harder in breast areas not included in the traditional mammoplasty drawing. In this respect, the mammoplasty technique with geometric compensation allows access to all quadrants and the correction of possible deformities.

According to the Consensus Meeting on Oncoplastic and Reconstructive Breast Surgery of the Brazilian Society of Mastology, advanced age (70 years or older) as an isolated factor is not a contraindication to the use of oncoplastic techniques or even bilateral surgeries.¹⁹

Studies published by the group of the European Institute of Oncology in Milan concluded that reconstructive techniques are safe for older adults and suggested potential benefits of oncoplastic techniques for this population since they are more likely to have fatty breasts, which facilitates the filling of deformities, and can lead to a better cosmetic result.^{20,21}

A literature review published in 2015 by James et al. revealed that few studies investigate oncoplastic and reconstructive surgery in older adult patients, reflecting the low utilization of these techniques in this group of patients.¹⁶

The studies identified in this review suggest that complication rates in older adults are similar to those in younger patients, and that length of stay and recovery are not significantly different. However, it is noteworthy that these studies are based on small numbers, so their results cannot be necessarily extrapolated to all older women.¹⁶

CONCLUSION

Despite being a recent concept still in development, oncoplastic surgery is an increasingly widespread technique recommended to a large number of patients. New techniques have been developed with better cosmetic results and preservation of the oncological treatment. In addition, oncoplastic surgery allows the resection of larger breast areas with free margins and symmetrization of the contralateral breast.

Oncological mammoplasty with areolar pedicle can correct many quadrantectomy deformities, and the geometric compensation technique described by Paulinelli et al. can be performed on patients who have tumors in areas not covered by traditional mammoplasty or even when it is necessary to remove the skin over the tumor.

Older adult patients should have access to oncoplastic and reconstructive breast surgeries. There are few studies in the literature associating oncoplasty with older adult patients, despite they currently representing 1/3 of new cases of breast cancer. The existing studies showed no differences regarding results or length of hospital stay when compared to younger patients. In this context, we reinforce the need to offer these techniques to this group of patients and for further studies.

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