

Research Article

Permanent Makeup in Areolopapillary Complex Reconstruction: A Case Study

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Abstract

Introduction: Oncoreconstructive plastic surgery represents a major advance for the quality of life of women with breast cancer and the reconstruction of the nipple areola complex (NAC) is the last step in the process of a new breast creation. GOAL. To present, through a case report, the results of Permanent makeup for PAC reconstruction in satisfaction, self-esteem and quality of life.

Materials and Methods: Case study of a 47-year-old volunteer who underwent unilateral PAC reconstruction through Permanent makeup performed in a single procedure. Comparative visual assessment (before and immediately after Permanent makeup images) and satisfaction of the procedure and its impact on self-esteem and quality of life were assessed using a structured questionnaire.

Results: The comparative evaluation of the images showed that after the procedure the neomama aspect was closer to the anatomical model. The volunteer reported satisfaction with Permanent makeup, stated that the procedure is safe and effective and approximates the aspect of the neomama to the original breast, with positive repercussions on sexual health, self-image and quality of life.

Conclusion: The Permanent makeup of the NAC showed a positive and important aesthetic difference in the new breast with favorable repercussions on the patient's satisfaction, self-esteem and quality of life.

Keywords: Tattoo; Permanent Makeup; Nipples; Nipple Areola Complex; Cancer; Breast Cancer; Breast Reconstruction; Breast Surgery

1. Introduction

Oncoreconstructive plastic surgery represents a major advance for the quality of life of women with breast carcinoma, and reconstruction of the nipple areola complex is the last step in the process of new breast creation [1]. However, for therapeutic success, it is essential to include trained and qualified professionals not only in the functional and psychosocial recovery of these patients, but also in the aesthetic approach during the rehabilitation process and reconstruction of the new body image [2].

Body changes are known to cause psychological and social harm, negatively impacting body image and self-esteem. Thus, partial or total breast extirpation can cause damage that goes beyond the physical sphere, which increases the relevance of multidisciplinary and interprofessional approaches in perioperative care [3]. Breast reconstruction is used in the re-recovery of

tumorectomies, segmentectomies, quadrantectomies and mastectomies, and may be associated in the latter two cases with various surgical alternatives.

Due to their relevance, breast reconstruction with myocutaneous flaps of the rectus abdominis and reconstruction with flaps of the dorsalis major muscle can be highlighted. It may or may not be associated with the placement of prostheses or silicone expansions in order to form and give volume to the mammary cone. After breast reconstruction, reconstruction of the areolopapillary complex through Permanent makeup may be important for the new breast to aesthetically approach the breast anatomy [4].

Permanent makeup is based on tattoo concepts and uses the dermograph to insert colored exogenous pigments under the skin, reconstructing by means of light and shadow techniques, the NAC [5]. In this sense, NAC reconstruction can contribute positively to the biological rehabilitation of the reconstituted tissue and to social, sexual well-being and self-esteem. However, few professionals are qualified to perform the technique with quality and safety to the patient, as stated by the Brazilian Society of Mastology [2]. Physical Therapy in Oncology and Functional Dermatology are specialties of Physical Therapy recognized in Brazil by the Federal Council of Physical Therapy and Occupational Therapy through Resolutions Coffito 364/2009 and 362/2009, respectively [6].

In this scope, and after proper technical training, the physiotherapist can contribute with the clinical staff to the quality of patient care, adding knowledge for functional and aesthetic rehabilitation of the breast tissue. This study aimed to present, through a case report, the results of Permanent makeup for NAC

reconstruction in satisfaction, self-esteem and quality of life of a mastectomized patient.

2. Materials and Methods

2.1 Study design and ethical aspects

This is a case study that followed the ethical criteria for research with human beings, according to Resolution 466/12 of the Brazilian National Health Council. The volunteer was invited to participate in the work, received explanations about it and signed an informed consent.

2.2 Clinical history of the volunteer

Infiltrating ductal carcinoma with supraclavicular lymph node metastasis was diagnosed in 2004 during routine gynecological consultation. In the same year, she underwent right unilateral radical mastectomy with axillary dissection followed by chemotherapy, radiotherapy and hormone therapy. In 2010, she underwent surgery for rotation of the dorsalis major muscle with breast implant placement and reconstruction of the areola with inguinal tissue flap. The prosthesis was replaced in 2017 by an expander due to shortening of the muscle graft.

2.3 Scientific research context

At the time of the research, the volunteer was 47 years old; she was evaluated and received the proposed treatment in November 2018, in a private office of Dermatofunctional Physiotherapy in the city of Juiz de Fora, Minas Gerais, Brazil, by a properly trained professional. NAC reconstruction was unilateral and performed in a single procedure lasting approximately 120 minutes. We used the Sharp 300 Pro dermatograph equipment with DIGITAL - SIRIUS speed control, three-pointed circular needles for papilla construction and three-dimensional effects, designed in circular

motions, and five-pointed linear needle for areola body construction with pendulum movements. For the composition of the colors of the NAC, organic and inorganic based pigments in the colors medium brown, dark brown, dry pink, skin color and white were used.

2.4 Outcomes and assessment methods

Comparative visual evaluation was performed through images “before” and immediately “after” the Permanent makeup process. Satisfaction and impact of NAC reconstruction on self-esteem and quality of life were the outcomes evaluated. For this purpose, a questionnaire consisting of 10 multiple choice questions, each with 3 to 5 answer options, was structured.

To minimize the risk of memory bias, the questionnaire was administered a few weeks after the Permanent makeup process was completed; To reduce the risk of response bias, the questionnaire was applied by a volunteer researcher and not by the professional who performed the procedure.

3. Results

The visual evaluation of figures 1 and 2 (below) allows us to perceive positive and important aesthetic difference in the new breast. Figure 1 shows the reconstructed breast with large dorsal muscle graft and reconstruction of the areola with inguinal tissue flap; the areola is poorly defined and colorless skin with apparent striations. Figure 2, after the permanente makeup of the NAC, shows a better definition of the areola, papilla and Montgomery glands, with light and shadow effects, providing depth and illusionism to the new breast structures.

Although the evaluation of sensitivity was not an

intended outcome, the spontaneous report of the volunteer showed increased sensitivity along the permanente makeup process. At the beginning of the procedure, the sensitivity from the needle to skin contact was null and increased to 4 and then 5 on the

Visual Analog Scale, where zero corresponds to the absence of sensitivity and 10 to the maximum sensitivity. In order to present the results obtained in the questionnaire in a more didactic way, we chose to have them in the Table below.



Figure 1: Areolopapillary complex before the permanente makeup.



Figure 2: Areolopapillary complex after the permanent makeup.

	Question	Answer
1	What is the importance of this work in the reconstruction of the nipple areola complex of mastectomized women?	Very important
2	How do you evaluate the quality of life after nipple areolar complex reconstruction through permanent makeup?	High
3	What is the impact of this work on the patient's sexual health?	Medium
4	What is the importance of permanent makeup in reconstructing the female self-image of the patient?	Very important
5	What is the aesthetic quality of the above procedure?	Excellent
6	Would you recommend this procedure to anyone after mastectomy?	Yes
7	On a scale from 1 to 5, how much does the above procedure look like areola (being 1 for “doesn't look like at all” and 5 for “looks a lot like” an areola)?	5
8	On a satisfaction scale how satisfied were you with the outcome of this treatment?	Very satisfied
9	How safe do you rate this procedure?	Very safe
10	How effective is this procedure for reconstruction of the nipple areola complex?	Very effective

Table 1: Qualitative assessment after NAC reconstruction.

4. Discussion

Aiming at greater patient satisfaction in post-mastectomy care, it is understood that the surgical preparation of the mammary papilla is preferably followed by permanent makeup to create a new areola [7, 8]. It is strongly indicated by the Brazilian Society of Mastology [2]. It can be performed under local anesthesia and offers good results in symmetry, color and texture with reduced risk of morbidity. In addition, it can be used for demarcation of surgical sections. When associated to another reconstruction technique, it contributes to better staining or correcting discrepancies in the shape, size, or location of the NAC [9, 10]. The risk of allergic reactions and photosensitivity are rare [9, 11].

Nimboriboonporn and Chuthapsith [12] point out that the main challenges of NAC reconstruction are to recreate the pigmentation and texture typically

associated with a patient's natural areola, bringing the anatomical look of the neomama to that of the contralateral breast. One of the most commonly used techniques involves the use of skin grafts, dermopigmentation (permanent makeup) and / or combination of the two techniques. For the authors, the permanente make-up procedure usually occurs 6-8 weeks after nipple reconstruction and can be done immediately after NAC reconstruction, thus obtaining better results. Also favorable results regarding dermopigmentation were reported by Pessoa et al. [1] in a case study of 10 patients who underwent permanente makeup procedure 6 to 12 weeks after nipple reconstruction. In all, areolas of regular edges, with colors similar to those of the contralateral NAC.

Although the permanent makeup of the volunteer in the present study took place 2 years after mastectomy, the result of the procedure was considered positive

according to the answers to questions 4 (very important dermopigmentation for female self-image reconstruction), 5 (excellent aesthetic quality of dermopigmentation), 7 (areola reconstructed by permanent makeup very similar to natural areola) and 8 (volunteer very satisfied with the result of the procedure).

The satisfaction reported by women undergoing the permanent makeup procedure can be explained by the fact that this procedure contributes to disguise and or correct possible superficial skin imperfections, restoring the patient's self-esteem and, consequently, psychically reconstructing her concept of femininity [5]. In this context, Souza (2015) observed through her own questionnaire that a group of women who underwent NAC dermopigmentation achieved an improvement in the perception of their self-image, undoing beliefs about the loss of beauty and sensuality after mastectomy. Therefore, it is understood that the reconstruction of the NAC is important for the reconstruction of the woman's image and that the aesthetics of this organ must be preserved, using the techniques and resources available in this specialty [13].

Finally, it is noteworthy that the physiotherapist plays an important role throughout the process of rehabilitation of cancer patients, not only through preventive exercises and techniques that help in reducing pain and maintaining the perfect functioning of the body, but also through makeup, permanently aiming to improve self-esteem and quality of life of patients [6].

5. Conclusion

The results of the present study allow us to conclude that permanent makeup was an important therapeutic approach to increase the self-esteem and quality of life of the volunteer and there was high satisfaction with the

treatment.

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