

Analysis of physical therapy treatment in post-mastectomy sensitivity disorder

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Keywords— *Physiotherapy, Sensitivity and Breast Cancer.*

Abstract— *Breast cancer is a cellular anomaly that can occur due to several factors, both environmental and the body itself. Cancer is one of the most important diseases that are increasing each year and, among many types, breast cancer, especially, draws itself even more attention for its location in a part of the body that brings womanhood to femininity. Thus, entails a series of physical and mental problems. Most women opt for mastectomy when the cancer is in an advanced stage as it is one of the ways to remove the entire tumor at once. Physical therapy plays a very important role because it will be present at all stages of cancer, it will be in early treatment until postoperative where it will prevent complications, an adequate functional recovery, and a better quality of life. The aim of this study was to propose a significant improvement in the life of a patient with breast tenderness decrease after mastectomy using the physiotherapy protocol for sensitivity recovery. It was found that there was recovery of normal skin sensitivity, total pain reduction and quality of life gain.*

I. INTRODUCTION

Breast cancer is a cellular anomaly that can occur due to several factors, whether environmental or the body itself. Gene mutations can occur and trigger transformation and malignant growth. Some risk factors for breast cancer are: age, skin color, race and ethnicity, family history, hereditary genetic lesions, medications (such as oral contraceptives, herbal medicines, pesticides), ionizing radiation, obesity and quality of life (CEZAR; NASCIMENTO, 2014).

Cancer is one of the diseases that has been increasing every year and, among several types, breast cancer, especially, draws more attention. It is located in a part of the body that brings femininity to women and, therefore, causes a series of physical and mental problems. Affecting several women over the years, breast cancer is the main malignant disease of the female sex, it has affected several age groups and the mortality of women has had a significant increase (SCHILITZ et al., 2019).

In many cases, surgery to remove the tumor is necessary. Among the main surgeries, we have the modified radical mastectomy and total mastectomy.

In a modified radical mastectomy, the surgeon removes the breast, the part above the pectoral muscles, and some of the lymph nodes in the armpit. In total (or simple) mastectomy, the surgeon removes the entire breast. Radical mastectomy is rarely performed today, which removes the breast, pectoral muscles, and most of the lower, middle, and upper lymph nodes (KOMEN, 2010).

Loss of breast sensitivity has been shown to be a common factor in women who have undergone mastectomy. The cold skin and scars, combined with the absence of sensitivity, cause some women the feeling that the graft looks like lifeless skin, which is not part of their body.

Women find it difficult to exercise their sexuality when breast sensitivity is compromised. A part of the body, which previously promoted the sensation of pleasure, becomes discomfort and other uncomfortable feelings, which may be associated with insensitivity to breast disease, each time they are touched (LORENZ; LOHMANN; PISSAIA, 2019).

Depieri (2005), report that desensitization is the sensitive stimulus performed at the distal end of the stump, which will lead to saturation of the receptors of the sensitive afferent pathways, with a view to normalizing local sensitivity. Because of this, there is a decrease in local hypersensitivity, so that adaptation to the prosthesis is bearable, through slow and gradual movements, starting from the finest to the harshest stimulus, being passed from one phase to another as the patient reports no be more of a nuisance the stimulus performed by the physiotherapist.

The improvement of the sensitivity disorder occurs through desensitization techniques. Physiotherapy plays a very important role because it will be present in all stages of cancer, whether in early treatment until the post-operative period, where it will prevent complications, adequate functional recovery, and a better quality of life. With desensitization in a patient with sensitivity disorder, it is expected to obtain a reduction in pain, improvement in tingling and paresthesia. Through the improvement of symptoms it is expected to increase the quality of life of patients and prevent possible future complications (MATHEUS; SILVA; FIGUEIREDO, 2018).

Most women opt for mastectomy when the cancer is at an advanced stage, as it is one of the ways to remove the entire tumor at once. Every surgery has its sequelae: in mastectomy she may have pain, swelling in the arm, seroma, hematoma, decreased ROM and also may present

sensitivity disorders, which is a clinical entity where the woman will feel pain, tingling and breast sensation gift. The sensations can be continuous and strong, they manifest themselves right after the surgery, in months and even years, it will depend on each body. Desensitization is one of the techniques to treat the syndrome (MATHEUS; SILVA; FIGUEIREDO, 2018).

Desensitization in patients with breast hypersensitivity and recovery of normal sensitivity aims to provide a reduction in heightened sensations and significant relaxation, not only in the breast, but also in other areas of the body. Thus, the objective of this study was to propose a significant improvement in the life of a patient diagnosed with decreased sensitivity after mastectomy through the use of a physical therapy protocol.

II. METHODS

TYPE OF RESEARCH

Nature and type of research

As the goals

Based on the objectives, this work is classified as explanatory research, in which it explains why, reason, deepens the knowledge of reality (GIL, 2002).

These researches are mainly concerned with identifying the factors that determine or contribute to the occurrence of the phenomena. This is the type of research that deepens the knowledge of reality, because it explains the reason, the reason for things (GIL, 2002).

As for technical procedures

Bibliographic research is based on a set of sources such as books, articles published in scientific journals, dissertations and theses, printed materials or materials available in electronic media (BALENA, 2013).

Case study is a research modality widely used in biomedical and social sciences. It consists of the in-depth and exhaustive study of one or a few objects, in a way that allows for their broad and detailed knowledge (GIL, 2002).

As for the approach

This is a qualitative work. It is the type of research suitable for those seeking to understand specific complex phenomena, in depth, of a social and cultural nature, through descriptions, interpretations and comparisons, without considering their numerical aspects in terms of mathematical and statistical rules (FONTELLES et al., 2009).

Population

Female patient with sensitivity disorder.

Sample

Patients who were diagnosed with breast cancer between 2008 and 2018, who underwent the surgical process with the radical mastectomy technique, living in the city of Caçador, Videira, Fraiburgo and Joaçaba - SC, aged between 40 and 60 years.

Ethical procedures

The project was submitted to the Ethics Committee of the Alto Vale University of Rio do Peixe - UNIARP and will follow all the ethical procedures provided for by Resolution No. 466/12, of the National Health Council, on research involving human beings and approved under opinion 3.775.682.

Procedures for data collection

The sample was selected through the dissemination of the research development at UNIARP Caçador-SC in partnership with the Women's Network for Fighting Cancer Hunter, with participants being volunteers who fit the inclusion factors.

Clarifications were made about the study and the signature of the Free and Informed Consent Term was collected for those who agreed to participate.

The research patient was then submitted to evaluation using the Evaluation form, which contains sociodemographic data, information about the pathology and treatment procedures already carried out, as well as physical and functional examinations to detect the phantom breast. After the evaluation, the patients underwent 15 physical therapy sessions using a breast sensitivity enhancement protocol. At the end of the 15 sessions, the patient was reassessed. The procedures took place at Uniarp Caçador's School of Physiotherapy Clinic.

Assessment

The patient was submitted to evaluation using the Evaluation form, which contains sociodemographic data, information about the pathology and treatment procedures already performed, as well as physical and functional examinations to detect the sensitivity disorder. After the evaluation, an esthesiometer test was performed to measure breast sensitivity.

Protocol application

The techniques applied in the sessions were massager with two different heads, one with bristles and

the other with a sponge, clove ball, and paraffin with two applications.

The sessions lasted for one hour, the massage with the clove ball was done in circular motions for 20 minutes, with the massager also performing circular movements lasting 10 minutes with each head. And finally the paraffin with two applications for 10 minutes each.

Revaluation

Reassessment took place in the last session using the esthesiometer, which confirmed the results of gain in sensitivity and the patient's report was of total absence of pain.

III. RESULTS AND DISCUSSION

The patient participating in the research was a woman who is currently 54 years old. The patient had been following up for fibroadenoma and cysts in the right breast since 2003. Five years ago, in 2014, at the age of 49, she was diagnosed with Invasive Breast Cancer with Stage 3 and Luminal Molecular Classification B, for complement. For diagnosis, lymphadenectomy was performed using Sentinel Lymph Node products and right axillary parasentinel. She underwent neoadjuvant treatment receiving 06 cycles of chemotherapy. After completion of neoadjuvant chemotherapy, the patient underwent modified radical mastectomy surgery (2015). Material sent for post-surgical pathological study verified lack of response to neoadjuvant chemotherapy and voluminous disease with invasion of the nipple.

During physical therapy evaluation, the main complaints were pain in the upper part of the breast and absence of periareolar sensitivity.

After performing 15 physiotherapy sessions to recover the local sensitivity of the right breast, the following results were observed:

Test with esthesiometer

The figures below show the regions where the esthesiometer was applied for the sensitivity and pain test, as well as the regions where the techniques for increasing sensitivity and decreasing them were applied.

Figure 1 demonstrates the locations around the red circle where the patient had normal sensitivity.

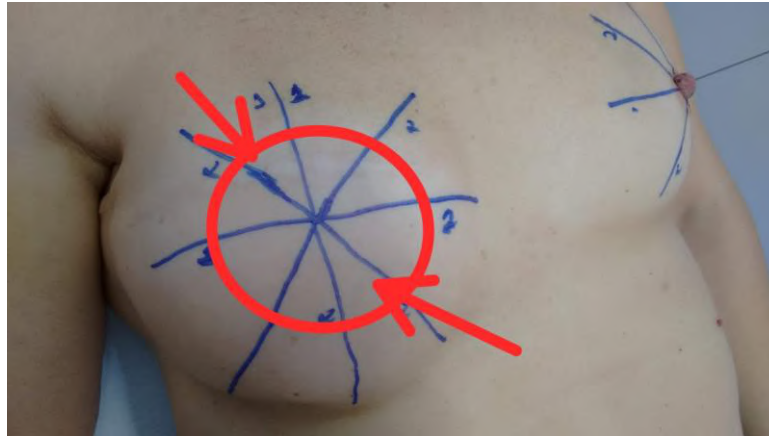


Fig.1: Normal sensitivity
Source: The Author (2019).

Figure 2 demonstrates that the peri-areolar region indicated in the circle did not present any sensitivity.

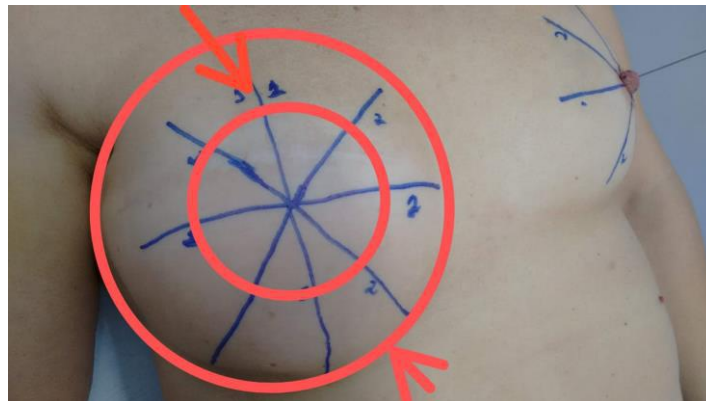


Fig.2: Lack of sensitivity
Source: The Author (2019).

With the applied physiotherapeutic techniques, the patient had a significant increase in sensitivity. The applied techniques were massager with two different heads, one with bristles and the other with a sponge, clove ball, and paraffin with two applications.

Figure 3 shows the location (marked by the circle) where the patient had pain to touch.

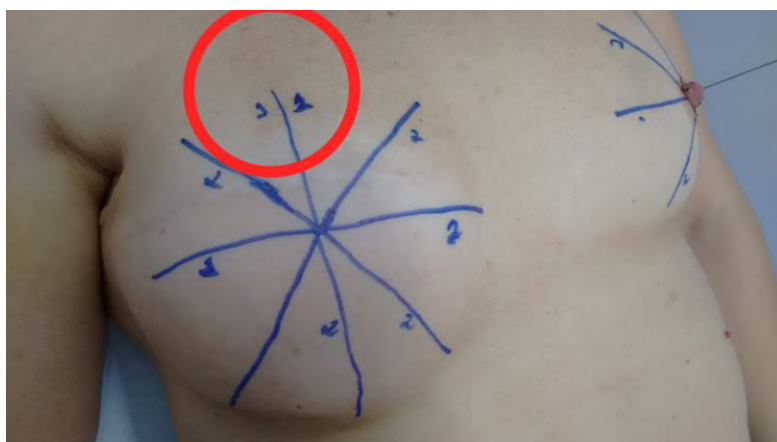


Fig.3: Pain area.
Source: The Author (2019).

The techniques for reassessment were the same used during the assessment. It was observed that after the 6th of the 15th sessions, the patient no longer had any pain and that skin sensitivity had recovered.

According to a study by Rocha et al. (2007), sensory stimulation and kinesiotherapy provide greater recruitment of muscle fibers during the treatment, which may increase efferents in the system and promote a reduction in the threshold of sensory nerve fibers, facilitating the triggering of afferents, thus, an improvement in the thermal sensitivity.

Protopathic sensitivity is the most primitive and diffuse, and represents all painful cutaneous stimuli, to heat and cold. When the transected sensory-cutaneous nerve regeneration occurs, the individual does not accurately locate the stimulus site. In specific sensitivity, discrimination is finer, with precise location, appears later in cases of nerve regeneration and comprises tactile and thermal sensitivities and temperature changes, with localization and discrimination power (FERNANDES; FREITAS; SPERLI, 2012).

The use of paraffin as a thermotherapy technique to restore normal sensitivity and decrease pain is proven by the study of Robertson et al. (2009) which states that thermotherapy, which consists of the application or removal of body heat for therapeutic purposes. Superficial thermotherapy is used to relieve pain in patients undergoing palliative care. The goal is to promote muscle spasm relief, muscle relaxation in individuals with tumors (ROBERTSON et al., 2009).

Sampaio's study, Moura and Resende (2005) corroborates this when it states that physiotherapy offers resources to reduce the characteristic pain that was verified with the patient after using the protocols. These procedures are used in the treatment of acute and chronic pain. It is of fundamental importance to provide the patient with greater well-being, functional improvement and better quality of life. Some objectives are transcutaneous electrical nerve stimulation, application of heat and cold (thermotherapy and cryotherapy), massage, among others.

It was also found that physiotherapy is of fundamental importance for the full recovery of mastectomized patients, a characteristic observed by Gugelmin (2018) which reports physical therapy has an important role in mastectomized patients as they help to reduce pain, movement, preserving and restoring the kinetic-functional integrity of the organs.

IV. FINAL CONSIDERATIONS

Breast cancer has been growing every year, and affecting many women, early cancer detection aims at a better prognosis and less morbidity associated with treatment, so studies to develop better treatment protocols are needed to address all stages of cancer.

Physiotherapy plays a very important role in this new stage in the life of the operated woman, it is present from pre to post-operative period, and its indications are for posture, adhesions, changes in sensitivity, among others, the sooner you undergo physiotherapy, the better the recovery with faster return to activities of daily living, contributing to their reintegration into society without functional limitations.

The diagnosis of the disease is experienced by both the patient and the family, it is a moment of anguish, fear of death, denial, anger, sadness. During the treatment, the woman will go through very painful periods, for the loss of the breast makes the woman no longer feel feminine attractive, and a period of denial begins where she does not accept some treatments out of shame or even fear that the condition will become aggravate.

This study demonstrated that Physiotherapy can significantly contribute to improving the quality of life of patients undergoing mastectomy. It is suggested to continue the research investigating more cases of breast sensitivity disorders with a larger number of patients.

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