Photobiomodulation and manual lymph drainage for the treatment of nipple necrosis in breast cancer patient: a case report

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INTRODUCTION

The therapy of photobiomodulação, formerly known as low-level laser therapy (LLLT), demonstrated to promote repair of tissues, by cellular repair biostimulation, angiogenesis and anti-inflammatory effects. These characteristics suggest a potential role for repair of chronic wounds and that may be applicable in the treatment of necrosis.

In this perspective, the study aimed to observe the effects of the physiotherapeutic intervention through the fotobiomodulação therapy in a patient with nipple necrosis after prophylactic mastectomy.

MATERIAL AND METHODS

A Brazilian female with a necrosis of more than 40% of the nipple on the right breast after breast mastectomy and reconstruction was referee to Physical Therapy (PT). PT sessions were composed by manual lymph drainage, manual therapy for de AWS, exercises of strength and flexibility, followed by LLLT with laser 660 nm, 2 joules per point at every 1 cm. Therapy was implemented for 12 times in total, performed from may 2016 untill June 2016. A reevaluation was performed monthly from July 13,2016, untill november 2017

CASE REPORT

A 36-year-old Brazilian female was referred to our institution in may 2016 for Physical therapy for bilateral mastectomy surgery.

The patient received neoadjuvant therapy of 12 cycles of Taxol and 4 cycles of AC followed by hormone therapy with Letrozole e Zoladex and monthly denosumab.

In april 2016 she had bilateral modified mastectomy with reconstruction and placement of expanderin left breast and left axillary lymphadenectomy. The anatomopathological analysis confirmed the diagnosis of invasive ductal carcinoma in the Left breast: 6 cm grade 2 DCIS with 0.6 cm of grade 2 IDC with LVI, 1/12 node positive. Positive LVI .Final breast surgical margins were free,. The axillary lymph nodes dissection showed signs of cancer (1/12). In addition, immunohistochemical staining of the tumor was positive for estrogen and progesterone receptors, and HER-2. BRCA mutation testing was negative. In the Right breast there was no pathology.

Bone scan confirmed hypermetabolic sternal bone lesion and slight hypermetabolic uptake in cervical LN and left axilla. In the last PET/CT showed no evidence of metastatic disease.

Physical examination revealed shoulder low range of motion and bilateral axillary web syndrome (AWS). There was a necrosis of more than 40%of the nipple on the right breast. PT sessions were composed by manual lymph drainage, manual therapy for AWS, exercises of strength and flexibility, followed by LLLT with red laser 660 nm, energy 2 joules per point at every 1 cm in whole nipple.

Therapy was implemented for 12 times in total, performed from may 2016 until June 2016. A reevaluation was performed monthly from July 2016, until november 2017. The nipple healed and repigmented its color.

May 11th

May 13rd

May 18th

May 23rd

June 2nd

June 29th

Aug 10th

after 18 months

CONCLUSION

Specific research on physiotherapy for patients with nipple necrosis is scarce, we experienced that LLLT was helpful for wound healing. Confirmation of the sustained effects of LLLT was shown in a follow-up 18 months after the patient's first examination..

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