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Title

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Permalink

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Journal

Proceedings of UCLA Health, 25(1)

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Publication Date

2021-03-17

CLINICAL VIGNETTE

Chronic Breast Pain after Breast Cancer

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A 52-year-old woman was referred after recent breast cancer diagnosis. Annual screening mammography noted a right breast mass suspicious for malignancy. Biopsy of the mass noted invasive ductal carcinoma, estrogen receptor-negative, progesterone receptor-positive, and human epidermal receptor 2 was 4+ on immunohistochemistry with a fluorescence in situ hybridization ratio of 3.1. Biopsy of an abnormal right axillary node confirmed metastatic ductal carcinoma. Positron Tomography showed the known right breast mass and right axillary nodes, but otherwise, no evidence of distant metastatic disease. She underwent a right breast lumpectomy with pathology revealing a 3.4 centimeter, grade 3 infiltrative ductal carcinoma with focal ductal carcinoma in situ. Lymphovascular invasion was noted and axillary lymph node dissection noted metastatic disease in six nodes out of 21 sampled. ER, PR, HER2 were similar to biopsy results. The patient completed six cycles of Taxotere, Carboplatin, Trastuzumab given every 3 weeks. She continued the trastuzumab to complete a year of therapy. She also completed adjuvant radiation and continues on an aromatase inhibitor to complete a ten-year course. After eight years, she remains in remission. Her only major complaint after completion of therapy is ongoing right breast pain. The breast exam shows thickened skin and soft tissue with faint erythema but no masses or chest wall skin abnormalities. While the whole breast is sensitive, there are consistent trigger areas that are particularly painful.

Breast cancer is the most common malignancy in women.¹ While surgery and radiation have led to impressive cure rates, chronic pain after therapy, defined as persisting symptom more than 3 months after prior treatment is unfortunately not uncommon.^{1,2} It is associated with significantly decreased patient quality of life and some estimates prevalence over 50%.^{1,2} One study showed, an association with prior breast cancer therapy as almost half of breast cancer survivors reported chronic breast pain compared to only 12.7% of their non-cancer counterparts.³ Beyond the discomfort, breast cancer patients with breast symptoms reported more depression, contributing to poorer quality of life, compared to non-cancer patients or survivors with no pain symptoms.³

Reviews examined multifactorial causes of pain with local therapy with attempts to better classify the post-surgical neuropathic pain syndromes.¹ Phantom pain is a sensation that the missing breast still remains and hurts after mastectomy.¹ Neuroma pain occurs in the area of the scar and can be provoked on examination.¹ It is important to identify neuronal pain as

this can be treated surgically.¹ Intercostobrachial neuralgia is related to injury in the distribution of the intercostobrachial nerve and can commonly be seen after axillary lymph node dissection although can exist without dissection.¹ Pain is noted in the axilla, medial upper arm and chest wall.¹ Similar neuropathic pain can involve injury of other nerves.¹ Radiation-induced brachial plexopathy appears to be the most common neuropathic disturbance.^{1,2} Most patients develop the pain within 3 years of therapy, but some report onset years to decades later.¹

Optimal treatment is yet to be determined.¹ Unfortunately due to the lack of knowledge about post-breast cancer surgical pain, patients are often mistreated with over-the-counter analgesics that have been found to be ineffective.¹ Multiple studies have examined regular exercise regimes, either aerobic or resistance training, targeting patients during or after breast cancer therapy. They have consistently shown improvements in measures of quality of life and pain assessments.¹ Effective medications studies have been limited, with the most promising involving gabapentin and venlafaxine in the immediate post-operative setting. However, the data is less encouraging 3-6 months after surgery.¹ Gabapentin also reduced the need for analgesics when given pre-operatively.^{1,2} Similarly, preoperative use of lidocaine cream reduced immediate post-operative and chronic pain symptoms.^{1,2} Prior research noted correlations between pain and preoperative depression/anxiety and fear.^{2,3} As such, targeting these confounding factors may help.

This patient's right breast pain was a significant and unrelenting consequence of her prior curative therapy, eight years prior. It definitely contributed to her anxiety regarding recurrence risk. More significantly, it caused distress during annual mammogram screening, with extreme discomfort during the mechanics of the procedure. Despite the high numbers of patients with chronic pain, it is rarely discussed pre- or post-operatively. Making patients aware of the possibility can have beneficial effects to patients who are already on high alert for breast symptoms. Limited research has focused on ways to ameliorate the problem, but certainly should be addressed given the large impact on the population.

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