

Phantom Breast Syndrome Post Mastectomy in Wasit Specialized Oncology Center

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Annotation: Phantom breast syndrome (PBS) is a type of condition in which patients have a sensation of residual breast tissue and can include both non-painful sensations as well as phantom breast pain. Present study aimed to determine phantom breast syndrome post mastectomy in Wasit Specialized Oncology Center. The current study included collecting a questionnaire from 100 women suffering from breast cancer and the phantom condition. The results of our study showed that 27% of patients suffered from phantom breast cancer pain, while the majority (73%) had a feeling of the presence of breast tissue but without pain. We found that phantom breast cancer pain appeared in a rate of 96% in the case of unilateral and 4% in the case of bilateral breast cancer, while the rates were 89% and 11% for both unilateral and bilateral breast cancer in patients not concerned with phantom breast pain (P value > 0.05). Modified radical mastectomy appeared in 88% and 85% of non painful and painful phantom breast cancer respectively whereas simple mastectomy determined in 12% and 15% of them respectively. We found statistical differences ($X^2 = 3.95$, P value = 0.036) when evaluating phantom pain for breast cancer according to the age groups of patients. The study

showed that the onset of feeling breast pain ranged from 1 to 9 months after breast lift surgery, with an average of 3.22 months and continued for a duration of 2 to 4 months, with an average of 2.14 months. Most (44%) of the patients had a phantom pain onset less than 3 months after the mastectomy. Conclusion: Phantom breast pain appeared in 27% of patients three months after the operation and continued for approximately two months. Phantom breast pain mainly associated with unilateral modified radical mastectomy and significantly different with age.

Keywords: Breast Cancer, Pain, Phantom, Mastectomy.

Introduction

About 60% of women with breast cancer undergo surgery for axillary node staging and primary breast tumor resection (1). One in eight women will develop breast cancer. After undergoing therapy for breast cancer surgery, more than 50% of women are thought to experience chronic pain (2). Patients with "phantom breast syndrome" (PBS) may have non-painful feelings in addition to phantom breast discomfort, as well as a sense of remaining breast tissue (3). The patient may experience tingling, pressure, burning, throbbing, itching, pins and needles, and pain. Even after more than a year following surgery, the condition may develop (4).

The incidence following mastectomy ranges from about 30% to as high as 80% of patients, depending on the study. PBS can linger for years following surgery, and the combined effects of physical impairment and psychological distress have a significant negative influence on quality of life (5). A recent study that was presented at the annual meeting of the American Society of Anesthesiologists showed that women who had phantom pain were more likely to experience sadness and worry of cancer returning (6). Additionally, compared to other women, those ladies were more worried about how the mastectomy might affect their sexual lives. In recent times, the incidence rate of breast cancer has increased in Western countries, despite improvements in survival rates. This has led to a rise in the number of women for whom post-treatment quality of life is crucial (7). In this particular setting, chronic pain after breast cancer surgery is an issue that is notably underdiagnosed and undertreated. The most common kind of pain is neuropathic pain, which can be caused by breast cancer, breast cancer surgery, or non-surgical treatment (8). In addition to shoulder pain and phantom breast dysesthesias and paresthesias, the surgery-related pain syndromes manifest as pain in the upper arm, chest wall, and surgical scar (9). Tumor recurrence pain, paraneoplastic processes, complex regional pain syndrome, chemotherapy-associated neuropathy (particularly paclitaxel), radiation plexitis, and plexopathy are other neuropathic pain syndromes that may worsen functional impairment (10).

Patients with phantom breast pain and other pain syndromes suffer greatly from diminished quality of life. Numerous chronic and cancer pain syndromes share the negative impact on a patient's physical and psychosocial functioning (11). Up to one quarter of patients report a

moderate to high impact on their daily activities at home and at work, and up to half of patients report a negative impact on their activities. Not surprisingly, studies have also shown that breast cancer surgery patients who suffer from chronic pain are more likely than the general population to experience psychological stress and psychiatric morbidity (8,12).

Methods

The participating women were breast cancer patients and had undergone a mastectomy for the first time. Where interviews were conducted with women between the ages of 26 and 77 years. There were no specific selection criteria regarding disease stage or type of mastectomy. Months after mastectomy, the questionnaire was taken and patients with medical or mental instability were excluded.

The data were statistically analyzed using the Statistical Package for the Social Sciences, version 22, with Microsoft Excel 2010. The approximate percentages, mean, standard deviation, and standard error were calculated, and a probability value of less than 0.05 was considered significantly different.

Results

The current study included collecting a questionnaire from 100 women suffering from breast cancer and the phantom condition. Their ages ranged from 25 to 77 years, with an average age of 52.59 ± 12.29 years, as in Table (1). We identified most of the disease cases within the age group from 40 to 50 years and from 50 to 60 years. From 60 to 70 years, the rate was 25%, 23%, and 24%, respectively, while the lowest rates appeared in younger and older patients (2% and 9%, respectively).

The research results showed that most of the participating women were married and had been suffering from breast cancer for years ranging from 1 to 12 months, with an average of 3.33 ± 2.09 months as in table (1) and Figure (1). We found most patients (91%) have cancerous tumors in one breast (unilateral breast cancer) and 9% have tumors simultaneously within both breasts (bilateral breast cancer) as in Figure (2).

Most cases (87%) have modified radical mastectomy that included remove the entire breast — including the breast tissue, skin, areola and nipple — and most of the underarm (axillary) lymph nodes whereas only 13% of patients have simple mastectomy that included remove the breast tissue, nipple, areola and skin but not all the lymph nodes as in Figure (3).

Table (1): age properties of patients

Age properties (years)	
Age range	26 - 77
Mean \pm SD	52.59 ± 12.29
SE	1.23
Age groups	N (%)
>30	2 (2%)
30-40	17 (17%)
40-50	25 (25%)
50-60	23 (23%)
60-70	24 (24%)
70-78	9 (9%)
Duration of cancer (months)	
Range	1 - 12
Mean \pm SD	3.33 ± 2.09
SE	0.21
Total Number	100

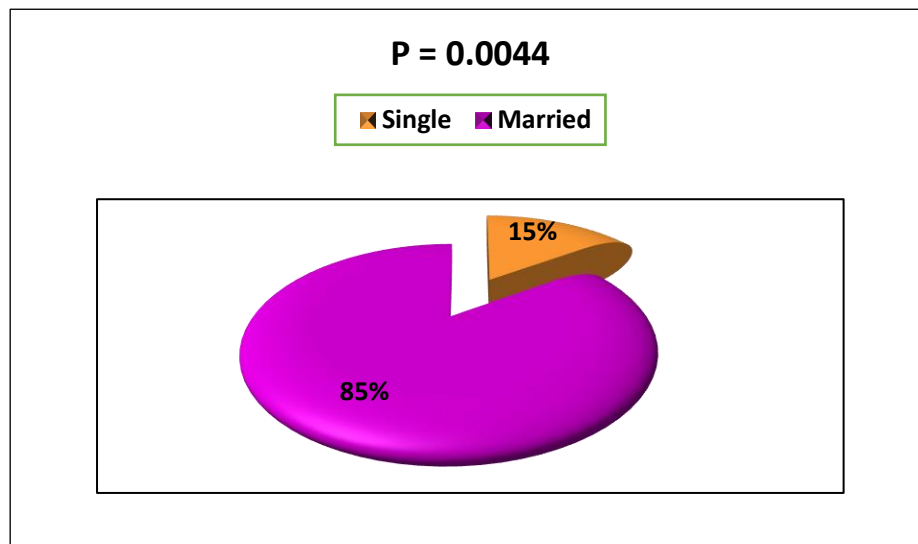


Figure (1): Marital status of participants

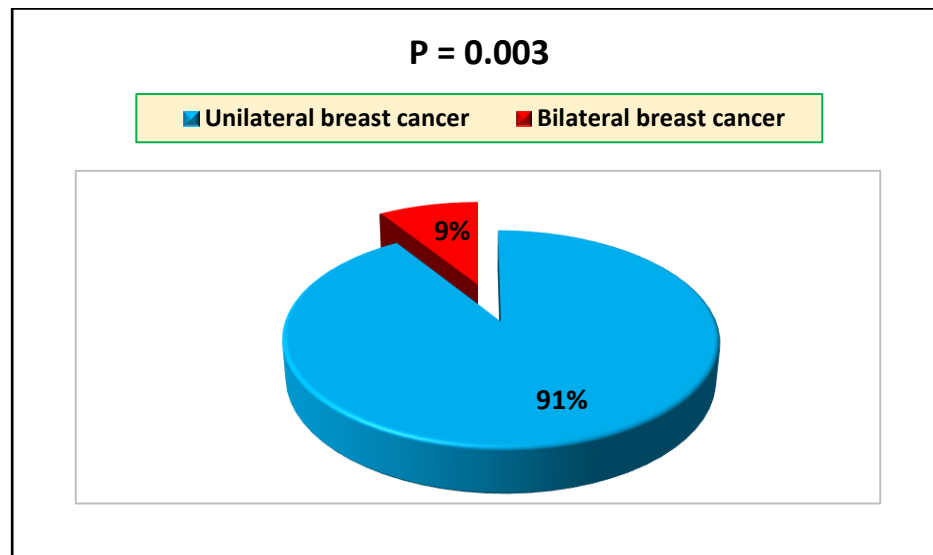


Figure (2): Distribution of patients according to type of lateral breast cancer

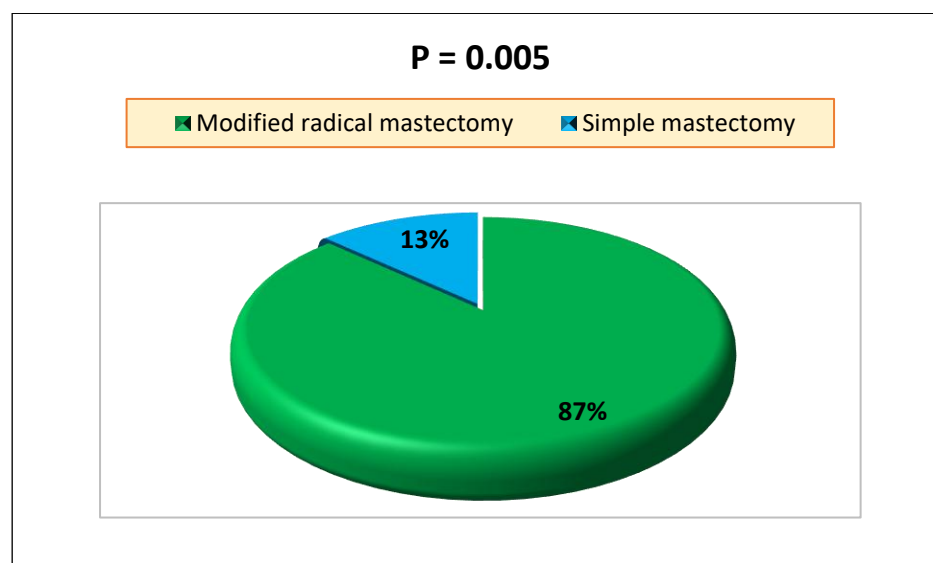


Figure (3): Distribution of patients according to type of mastectomy

The results of our study showed that 27% of patients suffered from phantom breast cancer pain, while the majority (73%) had a feeling of the presence of breast tissue but without pain, as shown in Table (2). We found that phantom breast cancer pain appeared in a rate of 96% in the case of unilateral and 4% in the case of bilateral breast cancer, while the rates were 89% and 11% for both unilateral and bilateral breast cancer in patients not concerned with phantom breast pain (P value > 0.05). Modified radical mastectomy appeared in 88% and 85% of non painful and painful phantom breast cancer respectively whereas simple mastectomy determined in 12% and 15% of them respectively. Moreover, marital status of patients not have any effect on pain or non pain picture of breast cancer as shown in Table (2).

The ages of patients suffering from phantom pain were lower than those who did not suffer from phantom pain (age mean were 51.48 and 53 years respectively). We found statistical differences ($X^2 = 3.95$, P value = 0.036) when evaluating phantom pain for breast cancer according to the age groups of patients, as we found all young female patients (100%) suffering from phantom pain, and we also found 24%, 20%, 35%, 21%, 33% of the age groups 30-40, 40-50, 50-60, 60-70 and 70-78 years respectively suffering from this phenomenon (Table 3).

The study showed in Table (4) that the onset of feeling breast pain ranged from 1 to 9 months after breast lift surgery, with an average of 3.22 ± 1.77 months and continued for a duration of 2 to 4 months, with an average of 2.14 ± 1.02 months. Most (44%) of the patients had a phantom pain onset less than 3 months after the mastectomy. While a smaller percentage of patients developed the onset of phantom pain after 6 months. The duration of the phantom pain for most women (67%) also did not exceed 3 months from the time they felt the pain until the present time when they visit the specialized clinics .

Table (2): Phantom presentation after Mastectomy

Properties	phantom presentation		P value
	Non-phantom pain (n =73)	phantom pain (n= 27)	
Age mean (years)	53	51.48	0.131
Lateral of breast cancer			
Unilateral	65 (89%)	26 (96%)	0.062
Bilateral	8 (11%)	1 (4%)	0.055
P value	0.0045	0.0029	
Mastectomy			
Modified radical mastectomy	64 (88%)	23 (85%)	0.109
Simple mastectomy	9 (12%)	4 (15%)	0.111
P value	0.0043	0.0044	
Marital state			
Married	62 (85%)	23 (85%)	1
Single	11 (15%)	4 (15%)	1
P value	0.00454	0.00452	

Table (3): Distribution patients' age groups according to phantom pain

Age groups	N (%)	N (%)	DF	X^2	P value
>30	2	2 (100)	5	3.95	0.036
30-40	17	4 (24%)			
40-50	25	5 (20%)			
50-60	23	8 (35%)			
60-70	24	5 (21%)			

70-78	9	3 (33%)			
Total Number	100	27			

Table (4): Onset and duration of breast cancer phantom pain after mastectomy

Phantom Breast	Onset (months)	Duration (months)
Range	1 - 9	1- 4
Mean \pm SD	3.22 \pm 1.77	2.14 \pm 1.02
SE	0.34	0.19
Groups / month	N (%)	N (%)
>3	12 (44%)	18 (67%)
3-6	11 (41%)	9 (33%)
6 - 9	4 (15%)	--
Total Number	27	27

Discussion

The findings of the present study agree with those of previously published studies concerning existence and prevalence of phantom breast phenomenon. In our current investigation, we found that 27% of the cases report experiencing phantom breast pain. However, when we dive into the details, the 95% confidence intervals for prevalence don't overlap at all, suggesting some significant differences in occurrence rates. This discrepancy might stem from variations in study methodologies and the diverse populations involved (13). The prevalence of phantom pain and sensations indeed shows remarkable variability, ranging anywhere from 10% to a staggering 55% for the phantom sensations themselves (14). Interestingly, while phantom pain and sensations often coexist, they arise from distinct mechanisms. So, treating one doesn't necessarily guarantee relief for the other. For instance, if we remove part of the cortex, the phantom sensations can disappear completely, yet the phantom pain stubbornly lingers on (15, 16). These problems have been caused by both central and peripheral processes. At both the spinal and supraspinal levels, central mechanisms were categorized. Deafferentation follows the loss of afferent perineural input to the spinal cord, which is thought to be caused by neuronal and tissue destruction after the peripheral nerves are severed during amputation (peripheral mechanisms) (17). Neuromas form in the cutting nerve's proximal region. These neuromas developed hyper-excitability and spontaneous discharges due to the buildup of sodium channel expression-accelerating molecules. Phantom pain appears to be caused by aberrant peripheral activation (18). People who have endured the prolonged anguish of enduring amputation owing to neuroma preformation with excessive mechanical and chemical stimulation are more likely to have phantom pain, which is more intense in these people (15).

In present study phantom breast pain significantly associated with patients age but not detected statistical differences between pain and non pain phantom breast cancer in lateral, type of mastectomy and marital status. Dijkstra proposed that one possible risk factor for PBS was age. The breast was likely a sign of feminization, sexuality, and body image in female surgery, which could explain the effect of age on PBP (19). The feeling of well-being is typically regarded as a lowering factor, even though worry is a strong risk factor for evoking PBS. The appearance and removal of PBS appear to be significantly influenced by psychological variables (20). According to a recent paper presented at the annual meeting of the Anesthesiology, women who experience phantom pain are more likely to experience sadness and fear of cancer recurrence (21). Furthermore, Wallake demonstrated that women having mastectomy with reconstruction without an implant or mastectomy without reconstruction had the highest prevalence of post-mastectomy pain (22). The quality of life is directly impacted by phantom pain and other pain syndromes; phantom pain affects physical limitations and stress levels (5). According to Jamison, between 60 and 80 percent of people experience phantom pain. Phantom pain generally has detrimental effects

on both physical and psychological elements (23). According to one study, around 50% of patients who had breast cancer surgery said that their everyday activities were affected in some way, and 25% said that their pain had a moderate to severe impact on their lives (24). Li demonstrated how pain affects both the home and the workplace (25). However, there are certain people who experience phantom pain as well as the fear of disclosing it for fear of being labeled insane. Several investigations have found that the time interval between mastectomy and PBS prevalence ranges, ranging from the first month to years after mastectomy (13, 26). Hansen's work demonstrated a correlation between PBS and low age, which is consistent with the current findings. Although this link is currently unknown, a number of studies have shown that peripheral nerves degenerate with age; this could be a physiological explanation that diminishes with age (13).

According to the results of this study, breast pain started between one and nine months following breast lift surgery, with an average of 3.22 ± 1.77 months, and persisted for two to four months, with an average of 2.14 ± 1.02 months. According to earlier research, PBS typically manifests within the first year following a mastectomy and starts more than three months after the procedure. The highest occurrence rate was observed more than a month after the procedure. The discomfort may be felt only in the nipple or in all areas of the breast. Typically, it happens as infrequently as every two to four weeks (27, 28). Patients' emotional state, everyday activities, social lives, and health system expenses are all significantly impacted by this chronic pain (29). Although there are significant similarities between the features of pre- and post-mastectomy pains, pre-amputation pain has a stronger correlation with phantom sensation than phantom pain (30,31). Six months following a mastectomy, there is a significant correlation between phantom pain and pre-amputation discomfort (32,33).

Conclusion

The onset of feeling breast pain ranged from 1 to 9 months after breast lift surgery, with an average of 3.22 ± 1.77 months and continued for a duration of 2 to 4 months, with an average of 2.14 ± 1.02 months. Phantom breast pain mainly associated with unilateral modified radical mastectomy. We found statistical differences when evaluating phantom pain for breast cancer according to the age groups of patients especially in younger patients.

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