

Incidence of Primary Complications Afterwards Modified Radical Mastectomy in Breast Cancer

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ABSTRACT

The cancer of breast is the 2nd leading source of cancer death in females. A modified radical mastectomy encompassed the combines removal of the axillary lymph nodes with all breast tissue removal from the affected breast. The most common complication of surgery is formation of seroma. Inadequate data is accessible on this topic. This analysis therefore provides valued information on this problem associated with infection of wound.

Objective: To govern the initial complications after radical modified mastectomy in women with cancer of breast.

Study Design: A descriptive case study.

Place and Duration: In the Surgical department of Muhammad Teaching Hospital, Peshawar for the duration of one-year from November 2020 to October 2021.

Methods: This descriptive case study was conducted at the surgical department of Muhammad Teaching Hospital, Peshawar for the duration of one-year from November 2020 to October 2021. The estimated sample size had an incidence of 18%, margin of error = 10% and CI = 95% of the sample size required is 62 patients. The sampling method used was non-probability purposive. Patients who met the selection criteria underwent a modified radical mastectomy with the prior conversant written consent. The patients were discharged home on the second day of surgery and were monitored weekly for the first 6 weeks at the clinic for primary complications such as seroma formation and wound infection. All related demographic data such as clinical information and age such breast cancer staging with possible complications were recorded at the culmination of 6-weeks. Data were entered into SPSS software version 21 and analyzed.

Results: The study included 62 females with a modified radical mastectomy for breast cancer who fully met the criteria of inclusion. 46.10 ± 13.02 years was the patients mean age with 20-75 years age range. The mean postoperative day of infection in wound was 4.60 ± 1.9 days and the mean postoperative day for seroma was 9.21 ± 3.98 days. Stage II breast cancer was diagnosed in 44 patients (70.9%) and stage I breast cancer in 18 patients (29.1%). Wound infection was observed in 5 patients (8.1%), while 16 patients (25.8%) experienced complications related to seroma formation.

Conclusion: This study showed that complications such as infection in the wound are significantly lower, but the incidence of seroma is consistent with nationwide studies that justify novel interferences to reduce the rate of these complications.

Keywords: Modified radical mastectomy, Seroma, Wound infection.

INTRODUCTION

Surgical treatment is a clear sign of breast cancer treatment. Underarm mastectomy is the most common surgery^{1,2}. These surgical procedures for the treatment of breast cancer are thought to be associated with a low mortality rate (1%)^{3,4}. A few existing reports are retrospective and limited to small samples. The most common complications associated with surgery and long-term hospitalization have rarely been studied in patients after breast surgery, secondary to their rarity^{5,6}. The most common complications are wound infection and serum formation^{7,8}. The incidence of postoperative wound infection varies between 3 and 19%⁹. These complications may lead to long-term hospitalization and outpatient follow-up and increase the suffering of breast cancer patients¹⁰. In addition, these complications of breast surgery may delay further adjuvant treatment¹¹. The feeling of losing femininity, transformation, self-esteem, health, role and life after mastectomy requires more emotional and psychological support. The aim of this study was to govern the initial complications after radical modified mastectomy in women with cancer of breast.

MATERIAL AND METHODS

This descriptive case study was conducted at the surgical department of Muhammad Teaching Hospital, Peshawar for the duration of one-year from November 2020 to October 2021. The estimated sample size had an incidence of 18%, margin of error = 10% and CI = 95% of the sample size required is 62 patients. The sampling method used was non-probability purposive. Sampling. Inclusion criteria: 1. Patients over 15 years. 2. Only women presented in OPD. 3. Histopathologically confirmed cases of infiltrative duct carcinoma (due to the existence of neoplastic cells).

4. Females with stage 1 and 2 cancers of breast. 5. Patients enduring radical modified mastectomy. 6. Patients must be surveyed for 6 weeks. Exclusion criteria: 1. Females having breast cancer with inflammation. 2. Immune deficiency patients such as diabetes, HIV, tuberculosis other malignancies. 3. Patients undergoing preoperative chemotherapy. Patients who met the selection criteria underwent a modified radical mastectomy with the prior conversant written consent. Ethical endorsement was issued by the Ethical Approval Committee. Modified radical mastectomy was performed by specialists with post-fellowship practice of more than five years. The patients were discharged home on the second day of surgery and were monitored weekly for the first 6 weeks at the clinic for primary complications such as seroma formation and wound infection. All related demographic data such as clinical information and age such breast cancer staging with possible complications were recorded at the culmination of 6-weeks. Data were entered into SPSS software version 21 and analyzed. Descriptive statistics were cast-off to summarize the classified data on wound infection, seroma formation, and breast cancer stages by percentage and percentage, while continuous variables such as age were presented as the mean standard deviation. Factors such as age and stages of breast cancer were classified to control them.

RESULTS

The study included 62 females with a modified radical mastectomy for breast cancer who fully met the criteria of inclusion. 46.10 ± 13.02 years was the patients mean age with 20-75 years age range. The mean postoperative day of infection in wound was 4.60 ± 1.9 days and the mean postoperative day for seroma was 9.21 ± 3.98 days. Stage II breast cancer was diagnosed in 44 patients (70.9%) and stage I breast cancer in 18 patients (29.1%). Wound infection was observed in 5 patients (8.1%), while 16

patients (25.8%) experienced complications related to seroma formation, as shown in Tables 1,2 and 3.

Table 1: shows the demographic features of the patients

Demographics	
Mean age	46.10± 13.02 years
Mean postoperative day of wound infection	4.60± 1.9 days
Mean postoperative day of seroma formation	9.21± 3.98 days
Stage-I breast cancer	18(29.1%)
Stage-II breast cancer	44(70.9%)

Table 2: Seroma formation complication

Seroma Formation	Frequency	Percent
Yes	16	25.8
No	46	74.2
Total	62	100
Missing System	0	-
Total	62	100

Table 3: Incidence of Wound infection complication

Wound infection	Frequency	Percent
Yes	5	8.1
No	52	83.9
Total	57	92
Missing Data	5	8
Total	62	100.0

Comparison of breast cancer stages with wound infection. In Stage-II, 4 patients (7.1%) had wound infection while one patient in stage-I (1.8%). Two patients have seroma formation in Stage-I and 14 in stage II.

According to the age classification of complication 3 (5.3%), the patient had a wound infection, while his age was in the range of 48-61 years, 2 (3.5%) had a wound infection over 62 years. Similarly, seroma formation was observed in 7 patients (11.3%) aged 34-47 years, 6 patients (9.7%) aged 48-61 years and 3 patients (4.8%) in the age group more than 62 years.

DISUCSSION

The modern approach to treating breast cancer is multidisciplinary. Surgical treatment of breast cancer depends on the stage of the disease at the time of the first visit, the patient's age, the patient's preferences and the choice of surgeon¹⁰⁻¹². Among the methods, the most common operation is a radical mastectomy modified with axillary clearance. Like any surgical procedure, it has significant complications and mortality¹³. Woodworth PA et al. As in this study, the most common complication of seroma formation was observed in 16 patients (25.8%)¹⁴. In the literature, the rate of seroma formation varies from 4.2% to 89% in underarms without evacuation and up to 53% in evacuated axilla. This complication can be prevented by placing a deep suction tube on the underarm mastectomy flaps. Seroma incidence has been shown to be associated with patient age, breast size, presence of axillary malignancies, previous surgical biopsy, hypertension, and heparin use. Similarly, seroma in this study occurred mainly in elderly patients. All of our patients have finally recovered from repeated debridement. Previously, there were reports of seroma formation after radical mastectomy that was resistant to medical treatment and eventually required surgical removal¹⁴⁻¹⁵. However, such seroma formation was not observed in our study. Seroma is therefore an "essential evil" and occurs unpredictably in an unpredictable number of patients. Wound infection is usually caused by an organism that is or is acquired in a hospital¹⁶⁻¹⁷. Factors that contribute to wound infection include fluid retention, wound opening. The most common causative organism was *Staphylococcus aureus* and the second organism was *Pseudomonas aeruginosa*. The literature of Hoffman J. shows the frequency of wound infection in 3.6% of patients¹⁸. Patients with wound infection were treated with antibiotics and sterile dressings daily according to culture reports and allergies¹⁹. Most of them become swollen, often so mild that they do not even notice it. High

body mass index before and after surgery increases the risk of lymphedema. This complication was observed in only two patients in this study²⁰. Two other studies showed lymphedema in 28% and 27.8% of patients, respectively²¹⁻²². Wound infection was observed in 5 patients (8.1%), while 16 patients (25.8%) experienced complications related to seroma formation. According to the age classification of complication 3 (5.3%), the patient had a wound infection, while his age was in the range of 48-61 years, 2 (3.5%) had a wound infection over 62 years. Similarly, seroma formation was observed in 7 patients (11.3%) aged 34-47 years, 6 patients (9.7%) aged 48-61 years and 3 patients (4.8%) in the age group more than 62 years. Studies have confirmed this. High psychiatric risk of breast cancer in the post-mastectomy years may be due to loss of femininity, confidence, health and role in life. Similarly, postoperative acute depression developed in two of our patients. But after repeated consultations, they chose antipsychotic drugs²³⁻²⁴.

CONCLUSION

This study showed that complications such as wound infection were common on day 5 after surgery and seroma formation was observed on day 10 after surgery. Wound infection was observed in 5 patients (8.1%) and seroma in 15 patients (25.8%). The incidence of wound infection is much lower, but the incidence of seroma is consistent with national studies, with the exception of some international studies, which show an incidence rate of 50%.

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