ORIGINAL ARTICLE

EARLY COMPLICATIONS OF MASTECTOMY WITH AXILLARY CLEARANCE IN PATIENTS WITH STAGE II AND III CARCINOMA BREAST

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ABSTRACT

Objective — *To evaluate the pattern early complications following mastectomy with axillary clearance for stage II and III carcinoma of breast*

Study design — *Descriptive study.*

Place & Duration of study — *Surgical Ward-3, Jinnah Postgraduate Medical Centre, Karachi, from January 2009 to December 2009.*

Methodology — *This study included 100 female patients who underwent mastectomy with axillary clearance for stage II and III carcinoma of breast. Postoperative complications were recorded on a proforma. All patients were followed in the Breast Clinic for one month.*

Results — *The average age of the patients was 47.32 + 13.53 years. TNM staging revealed tumor size of more than 5 cms in most (60%) of the cases. Palpable lymph nodes were present in 72 % of the patients. None of the patients showed evidence of metastasis. The biopsy report was infiltrating ductal carcinoma in all except in two patients in whom biopsy turned out to be mucinous adenocarcinoma. Seroma formation was the most common complication that occurred in 38 (38%) patients. Oedema of arm was observed in 2 (2%), wound infection occurred in 12 (12%), haematoma in 4 (4%), skin flap necrosis in 6 (6%) and necrosis of the rotation flap was in two patients.*

Conclusions — *Seroma formation was the most common complication. Other complications were wound infection, flap necrosis and lymphoedema.*

Key words — *Mastectomy with axillary clearance, Breast carcinoma, Complications.*

INTRODUCTION:

Surgical management is the hallmark of treatment of breast cancer. Among the surgical procedures mastectomy with axillary clearance is the most commonly performed procedure. These surgical procedures aimed to cure breast cancer are considered to be associated with low morbidity and mortality rates (1%).[1] Surprisingly, the literature is sparse concerning the perioperative mortality and morbidity following breast cancer surgery. The few available reports are retrospective in nature and limited by small sample size.[2-6]

Complications, more frequently associated with surgery and prolonged hospital stays, have infrequently been investigated in patients following breast surgery, albeit secondary to their rare occurrence. The most frequently cited complications are related to wound infection and seroma formation. Incidence rates for postoperative wound infections are variable and range from 3% to 19%. These complications can end up in prolonged hospitalization and outpatient follow-up, further adding to the miseries of the breast cancer patients. Also, these complications from breast surgical procedures may delay subsequent adjuvant therapies. Feeling of loss

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of her feminity, disfigurement, self esteem, health, role and life after mastectomy needs further emotional and psychiatric support.

The aim of the current study was to evaluate the early complications (within 30 days) following mastectomy with axillary clearance for established cases of carcinoma of breast.

METHODOLOGY:

This descriptive study was conducted in Surgical Unit-I, Ward-3, Jinnah Postgraduate Medical Centre, Karachi for one year i.e. from 01-01-2009 to 31-12 -2009. This study included hundred female patients who presented in the Breast Clinic, with the established diagnosis of carcinoma of breast and underwent modified radical mastectomy with axillary clearance. All patients were followed in the Breast Clinic for one month. Data was analyzed by using SPSS version 10 on computer. Descriptive statistics like frequency, percentage, averages etc were computed for data presentation.

RESULTS:

A total of 100 patients were analyzed to assess the pattern of complications following modified radical mastectomy with axillary clearance for established cases of early carcinoma of breast. Average age of the patients was 47.32 + 13.53 years **(**ranging from 25 to 74 years). Tumor node metastasis (TNM) staging revealed tumor size of more than 5 cms in most (60%) of the cases. Palpable lymph nodes were present in 72% of the patients. None of the patients showed evidence of distant metastasis. The biopsy report was infiltrating ductal carcinoma in all the patients except for two patients in whom it turned out to be mucinous adenocarcinoma.

Table I: Tumor Characteristics

TNM* Staging	Frequency	Percentage
T2 (2-5cms) T3 (>5cms)	40 60	40% 60%
N0 (No node metastasis) N1 (Regional node metastasis)	28 72	28% 72%
Mo (No distant metastasis) M1 (Distant metastasis)	100 Nil	100% -

Seroma formation was the most common complication (38%) despite the use of suction drains under mastectomy flaps and in the axilla. Oedema of arm was observed in only two patients. Wound infection occurred in 12 (12%) patients, while 4 (4%) patients developed haematoma which was evacuated. Skin flap necrosis was observed in 6 patients. Necrosis of rotation flap was observed in two patients.

DISCUSSION:

The modern approach to the breast cancer management is multidisciplinary. The surgical treatment for the breast cancers depends upon the stage of disease at the time of initial presentation, age of patients, patient's preference and surgeon's choice. Among the procedures, modified radical mastectomy with axillary clearance is the most commonly performed surgery.[7] Like every surgical procedure this also has significant morbidity and mortality. Similar to Woodworth PA et al[8] the most common complication in this study was seroma formation which was observed in 38 (38%) patients. In literature the rate of seroma formation varies between 4.2% and 89% in un-drained axilla and as high as 53% in drained axilla.[9] This complication can be prevented by insertion of suction drain deep to mastectomy flaps in the axilla.[8] The incidence of seroma has been shown to correlate with patient's age, breast size, presence of malignant nodes in the axilla, previous surgical biopsy, hypertension and use of heparin.[9-11] Similarly, in this study seroma usually occurred in patients who were of old age, with hypertension and those with lymph nodes positive for metastasis in the axilla. All of our patients ultimately recovered on repeated aspirations. Cases of fibrous encapsulated seroma following radical mastectomy, resistant to conservative treatment which finally required surgical resection were previously reported.[12, 13] However, in our study no such seroma formation occurred. Seroma is thus a "necessary evil" and it will occur unpredictably in a predictable number of patients.[14]

The wound infection is commonly due to nosocomial or hospital acquired organism. The factors contributing the wound infections are fluid collection, wound separation and smoking.[15] Staphylococcus aureus was the most common causative organism, the other organism being pseudomonas aeroginosa.[16] The literature shows the incidence of wound infection in 3.6% of patients in a study by Hoffman J.[17] Patients with wound infection were treated by antibiotics according to culture and sensitivity report and sterilized daily dressing.

Early arm oedema is said to occur in about half of the patients after axillary dissection. The majority, develop some degree of oedema, often so slight that they were unaware of it. The higher body mass index before and after operation increases the risk of lymphoedema.[18] This complication was observed in only two patients in this study. The two other

studies showed lymphoedema in 28% and 27.8% of the patients. [19-20]

Skin flap necrosis was observed in two patients where extensive mobilization was done. Another patient with diabetes, hypertension and stroke developed flap necrosis, which settled after excision of skin margins. In one patient with co morbids repeated excision of the skin was required. The probable explanation could be that the proper wound healing requires recruitment of immunologic cellular activity, protein synthesis, and adequate nutritional status.[21]

One of the patients with locally advanced breast cancer with bleeding, ulceration and low haemoglobin level, underwent mastectomy with coverage of large defect with rotational skin flap. She developed necrosis of the 50% of the flap. The risk of the skin flap complications after radical surgery for breast cancer can be minimized by lesser use of cautery, injection of adrenaline containing solution into subcutaneous tissue, routine use of suction drains and application of pressure garment.[22]

Studies confirmed the existence of high psychiatric morbidity in the years following mastectomy for breast cancer. The reasons could be loss of her feminity, self esteem, health, role in life.[23] Similarly, two of our patients developed acute depression after surgery. However, after repeated consultations they settled on antipsychotic drugs.

CONCLUSION:

Seroma formation, wound infection and oedema of arm were major early complications, while haematoma and skin flap necrosis were observed in few cases after modified radical mastectomy with axillary dissection.

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