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Outcome and Evaluation of Mastectomy with Axillary Dissection in Stage-II Breast Cancer: Tertiary Level Multicentered Study in Rajshahi, Bangladesh

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Abstract **Original Research Article**

Background: The purpose of this study was to Outcome Evaluation of Mastectomy with Axillary Dissection in Stage-II Breast Cancer. And satisfaction in patients who have undergone mastectomy. An Experimental study was conducted from December 2018 to Nov 2020 at Rajshahi Medical College Hospital. Total 556 patients, Breast conservation (partial mastectomy, axillary node dissection or sampling, and radiotherapy) is the current standard of care for eligible patients with Stages I and II breast cancer. ***Methods:*** A 2-year prospective analysis of the experience with breast reconstruction following Mastectomy with Axillary Dissection in Stage-II Breast Cancer was performed. Timing, quite mastectomy and reconstruction, complications, and cancer occurrence/recurrence were examined. Patients reported their level of satisfaction and willingness to undergo the procedure again. Outcomes of Mastectomy were graded by an independent and blinded group of surgeons. ***Results:*** Outcome of Mastectomy with Axillary Dissection in Stage-II Breast Cancer performed in 556patients following mastectomy. With a mean follow-up of 24 months, there were three breast-site complications in this group (3 percent). Patients in the study had a unilateral mastectomy; on the contralateral side with cancer, there were five breast-site complications in reconstructions following therapeutic mastectomy, patients 266 (48%) had the early-stage disease (0, I, II) at diagnosis. With 24 months median follow-up, complete control of axillary recurrence was achieved in 395 patients (71%). Distant metastases developed in 278 (50%) and were more likely with uncontrolled axillary recurrences. Failure to receive multimodality therapy and failure to undergo surgery for the recurrence correlated with resistant axillary disease. ***Conclusions***: Mastectomy was as safe as or more. Safe than that following therapeutic mastectomy, which has been shown in other studies to end in a high percentage of patient satisfaction. Although not statistically significant, the results from reconstruction after mastectomy trended toward an improved outcome with a lower complication rate compared with reconstruction after therapeutic mastectomy. Disease control is best achieved with multimodality therapy including a surgery component.

Keywords: Mastectomy, Surgery, Breast Cancer, Treatment, Axillary node dissection, Rajshahi Medical College Hospital.

INTRODUCTION

As more studies document its efficacy in reducing the risk of developing breast cancer by 90% percent or more. Mastectomy is effective in various patient populations, including those carrying the breast cancer–related genes BRCA1 and BRCA2, and as a contralateral procedure in patients with breast cancer. Although great advances have been made in identifying women at increased risk of developing breast cancer the operation as it is currently practiced and its outcomes, Critical questions relating to the choice of type of reconstruction, types, and frequency of complications, and patient satisfaction need further elucidation to help surgeons and patients better understand this rapidly evolving subject to make better-informed decisions. This study is a retrospective analysis of the Outcome of Mastectomy with Axillary Dissection in Stage-II Breast Cancer performed in 556 patients following mastectomy. At Rajshahi Medical College Hospital. Regarding the optimal management approach for the clinically negative axilla in newly diagnosed carcinoma patients. Data from the overview analysis indicate that adjuvant therapy is associated with a significant survival benefit for patients who are node negative as well as node-positive [1]. In addition, several series have demonstrated that systemic therapy

recommendations are more likely to be made supported primary tumor features instead of axillary nodal status [2, 3]. These issues, coupled with the potential risk of lymphedema [2, 4, 5], have motivated efforts to either eliminate axillary lymph node dissection (ALND) completely6 or to replace it with less invasive surgical staging procedures, As ALND has been a standard component of breast cancer management for several decades, there are limited data available regarding the significance of axillary regional nodal failure concerning initial breast cancer stage at diagnosis, and even less is known about the optimal management approach for these patients. The incidence of axillary relapse may increase with longer follow-up of patients in whom ALND is deferred. The purpose of this study was to gauge the result and management for patients with this pattern of disease failure.

MATERIALS AND METHODS

An Experimental study was conducted from December 2018 to Nov 2020 at Rajshahi Medical College Hospital. a complete of 556 patients, of those patients, (1%) were diagnosed with axillary recurrence as an initial site of disease relapse, the medical records of those patients were reviewed utilizing a typical writing. The staging was supported surgical pathologic findings unless the patient received induction chemotherapy; for this subset, the staging was supported clinical findings at diagnosis. Median follow-up was 24 months from the time of initial diagnosis, and 26.9 months from the time of detection of axillary recurrence.

Breast cancer situation in Bangladesh

In Bangladesh where quite 80% of the agricultural women is illiterate, mentioned during a conservative Muslim value or old traditional customs, it's not very easy to go to the doctor or simply informed the guardian either her husband or parents that she got a breast problem. Society isn't very friendly and hospitable discuss reproductive or and sexually transmitted diseases, especially among women. it's understandable why late-stage carcinoma is that the hallmark presentation in Bangladesh. Health-seeking behavior is one among the important aspects lately presentation. Several studies show that misconception and disbelieve may be a significant factor for delayed health-seeking behavior. In Bangladesh where the tutorial level is low and quite 40% of individuals live below one dollar per day. Further, women aren't self-dependent and cultural norms and non-secular values are unfavorable. Moreover, government support is restricted there delayed health-seeking behavior is sort of apparent. Furthermore, a mother or a lady is that the sole caretaker of the wellbeing of their family and their children, in order that they pays less attention to their health. Most of the ladies are scared of cancer. There's a general feeling of hopelessness and helplessness if they got cancer because they believe this is often non-curable and there's not much they will do until expecting death.

REVIEW OF LITERATURE

A woman's risk of carcinoma is doubled if a mother or sister is diagnosed with carcinoma for many women with a case history; approximately 10% of all female carcinoma are attributed to a mutation. However, won't continue to develop carcinoma Women with a mutation are more likely to possess a robust case history of carcinoma and to be diagnosed at a younger age than the overall population. Some studies found it had been not the mastectomy that altered a adult female body image, but the adjuvant treatment that she required, especially chemotherapy and therefore the resultant hair loss experienced.

Nancy et al., report a prospective nonrandomized study of screening every 6 months with clinical breast examination, mammography, and resonance imaging (MRI) in women who had a genetic or familial predisposition to carcinoma (lifetime risk >15%) within the Netherlands. In all, 1,909 eligible women, including 358 carriers of the germline mutation, were screened with a median follow-up of three years during which era 51 tumors were detected. Among 45 cancers that complete data were available for analysis, 49% were identified by MRI but not mammography, 22% were identified by both MRI and mammography, and 18% were identified by mammography but not MRI. during this population, MRI compared with mammography had higher sensitivity (71% versus 40%) but lower specificity (90% versus 95%). MRI can detect otherwise hidden carcinoma in high-risk patients and is perhaps most beneficial in women with the very best risk, where specificity are often sacrificed to realize higher sensitivity. No data support the utilization of MRI in screening women at normal risk. The role of ultrasonography wasn't investigated (Nancy et al., 2005).

From the Program in Cancer Genetics, the Research Institute of the McGill University Health Centre, and therefore the Lady Davis Institute of the Jewish General Hospital (W.D.F.); McGill University, Montreal; and therefore the Breast Unit, Royal Marsden Hospital and Institute of Cancer Research (I.E.S.), and therefore the Breakthrough carcinoma Research Centre, Institute of Cancer Research (J.S.R.-F.) Both in London. Address reprint requests to Dr. Foulkes at the Program in Cancer Genetics, Departments of Oncology and Human Genetics, Gerald Bronfman. In 2007 approximately 12,000 women died as results of their carcinoma within the UK, accounting for 16% of all female mortality from cancer. carcinoma are often diagnosed during a woman of any age, but the danger of developing carcinoma increases with age,

and most cases (approximately 80%) of carcinoma occur in women over the age of fifty years. carcinoma is that the commonest cancer in women within the UK, accounting for 31% of all cancers in women. In 2008 47,693 women were diagnosed with carcinoma within the UK.

RESULTS

Clinical characteristics for the study patient population are shown in Table I. Most patients were under the age of fifty at the time of initial diagnosis, and nearly one-half had early stage disease (ductal carcinoma in place, stage I or stage IIA). Nine patients 117 (21%) had a clinically positive axillary at the time of diagnosis. Forty patients 506 (91%) had invasive ductal primary tumors, nearly all patients (40 of 44, 91%) had an axillary lymph gland dissection as a component of their initial treatment. The median number of lymph nodes resected was 13. Histopathology evaluation revealed that 17 of those patients 239 (43%) were pathologically node-negative. Approximately one quarter (10 of 44) received induction chemotherapy, and 117 (21%) received axillary nodal radiation as a component of their primary carcinoma therapy. Four patients 50 (9%) had no axillary treatment at initial presentation.

Table-I: Clinical Features of Patients

Feature	Number
Median age (range).	48 years (25–74)
Stage at diagnosis	
0 (ductal carcinoma in situ)	12 (2.3%)
I	102 (18.2%)
IIA	152 (27.3%)
IIB	151 (27.2%)
IIIA	37 (6.8%)
IIIB	102 (18.2%)
Median primary tumor size at diagnosis (range)	2.5 cm (1.0–30.0)
Primary Surgical Treatment At Diagnosis (%)	
Total mastectomy	25 (4.5%)
Total mastectomy and axillary lymph node dissection	367 (65.9%)
Segmental mastectomy	25 (4.5%)
Segmental mastectomy and axillary lymph node dissection	139 (25.0%)
Systemic therapy at diagnosis	
Induction chemotherapy	126 (22.7%)
Postoperative chemotherapy	354 (63.6%)
Postoperative tamoxifen	126 (22.7%)
None	152 (27.3%)

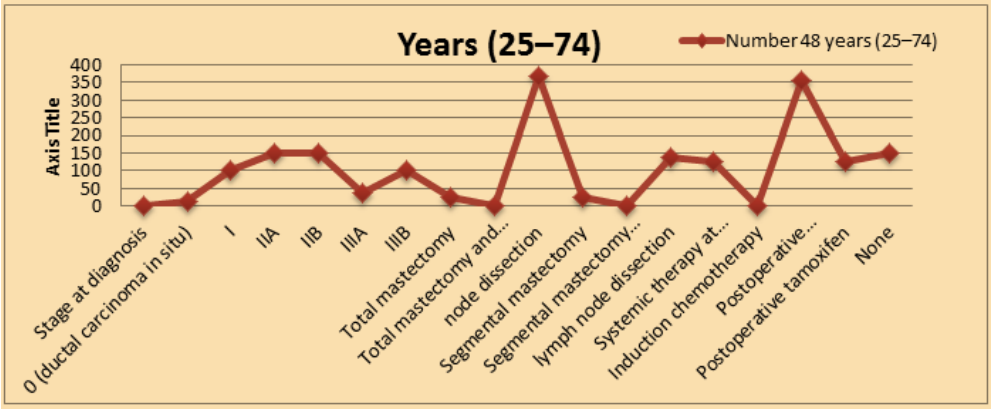

Fig-1: Clinical Features of Patients

Table- II: Presentation and Management

Presentation and Management	Number
Median interval between initial diagnosis and detection of axillary recurrence (range)	
Extent of axillary recurrence at	19.8 mos. (3–117)
Presentation (%)	
Single palpable node	
Multiple palpable nodes	379 (68.2%)
No palpable; detected by breast imaging Unknown	114 (20.5%)
Pattern of first treatment failure	25 (4.5%)
Isolated axillary recurrence	37 (6.8%)
Axillary and other loco regional recurrence Axillary and distant recurrence	
Initial treatment for axillary recurrence (%)	378 (68.1%)
Surgical resection	151 (27.3%)
Irradiation	25 (4.5%)
Chemotherapy	
Tamoxifen	
Single modality therapy given for	25 (4.5%)
Axillary recurrence (%)	25 (4.5%)
Surgical resection only	252 (45.5%)
Irradiation only	25 (4.5%)
Systemic therapy only	12 (2.3%)
Multimodality therapy given for	12 (2.3%)
Axillary recurrence (%)	114 (20.5%)
	417 (75%)

Axillary recurrences were detected at median interval of 19.8 months, and was the isolated site of relapse in two thirds of these cases (30 of 44, 68%). Presentation and management of the axillary failures is listed in Table II. Most patients presented with a localized, palpable axillary mass (41 of 44, 93%). Patients 27 (5%) had synchronous distant metastases and 150 (27%) had synchronous additional loco regional recurrence.

Table-III: Outcome for Patients (Median Follow-up 26.9 Months)

Outcome for Patients	Percentage
Complete resolution of axillary recurrence achieved (%)	392 (70.5%)
Initial axillary recurrence controlled but subsequent axillary recurrence developed (%)	25 (4.5%)
Distant metastatic disease developed (%)	278 (50%)
Axillary disease controlled	215 (38.7%)
Axillary disease not controlled	427 (76.9%)
P= value	0.02

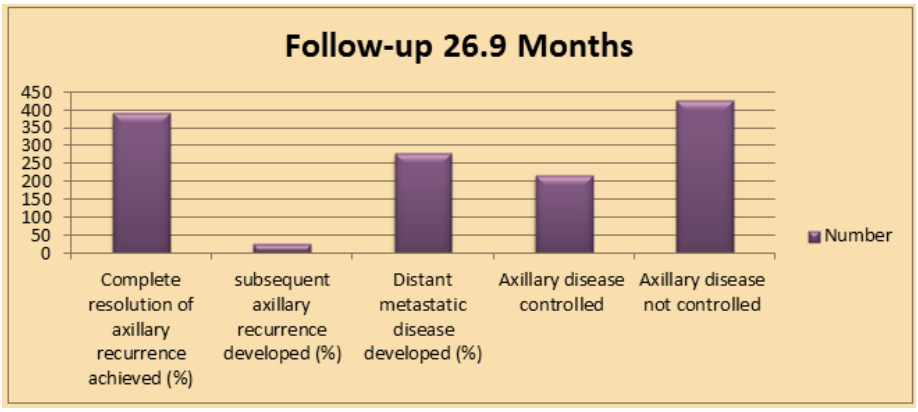

Fig-2: Outcome for Patients

Outcome for the patients with axillary recurrence is shown in Table III. Patients 27 (5%) experienced multiple recurrences in the axillary nodal basin, but in most patients 389 (70%) durable and complete resolution of the axillary relapse was achieved with the selected treatment regimen. Overall, distant metastatic disease occurred patients at median interval of 23 months from the time of detection of axillary recurrence. Patients with failure to control the axillary

recurrence were significantly more likely to develop distant metastatic disease (77% versus 39%, P = 0.02).

DISCUSSION

The first effective treatment for breast cancer was surgical. Radical mastectomy with extensive regional lymph adenectomy served to control local disease at time when early detection was not possible and no other treatment modalities were available, Management of the axilla in breast cancer patients remains controversial. The approach for patients with a clinically positive axilla is relatively more straightforward.

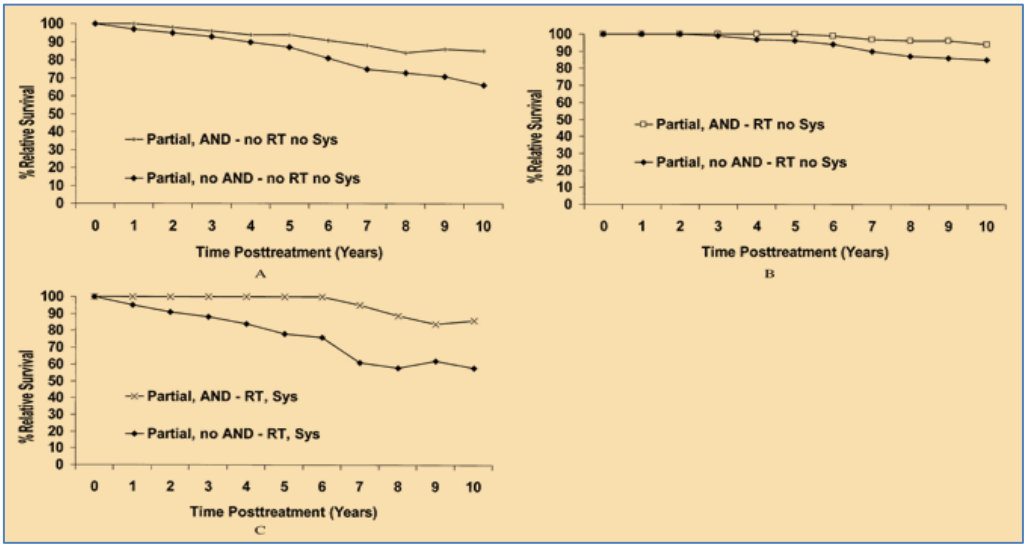

Fig-3: (A) Relative survival Stage I breast cancer treated with partial mastectomy with and without axillary node dissection, without radiation or systemic chemotherapy. (B) Stage I breast cancer treated with partial mastectomy with and without axillary node dissection, with radiation but without systemic chemotherapy. (C) Stage I breast cancer treated with partial mastectomy with and without axillary node dissection, with radiation and systemic chemotherapy.

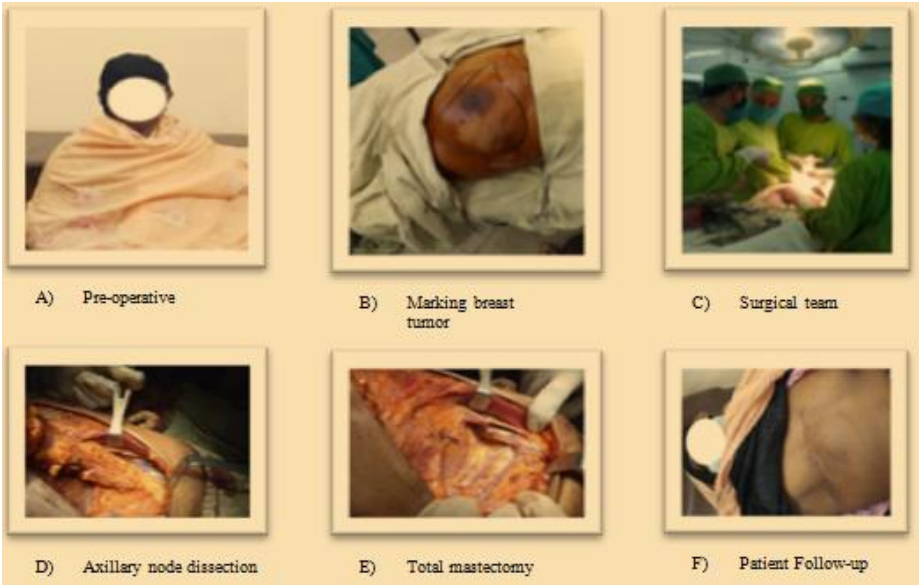

Fig-4: Total mastectomy and axillary lymphnode dissection Stage-II Breast Cancer

Management of the axilla in breast cancer patients remains controversial. The approach for patients with clinically positive axilla is relatively more straightforward. This scenario generally mandates complete ALND to avoid the risks of regional disease progression, which may end in substantial morbidity from brachial plexopathy. Radiation the study's results, 79 (14.2%) of the 556 clinically node-negative patients randomized to undergo total mastectomy alone had an axillary recurrence requiring delayed dissection [13]. The subsequent review of the study participants has revealed, however, that many patients randomized to undergo total mastectomy did have some axillary lymph nodes resected with the surgical specimen [14, 16]. The risk of axillary recurrence necessitating delayed ALND was inversely related to the number of lymph nodes removed at the time of total mastectomy, and the axillary failure rate was 116 (21%) when this issue was

taken into account. It should even be noted that the sample size of the NSABP-B04 study wouldn't are capable detect the presence of a little survival benefit conferred by ALND if one does exist.

The utility of ALND has also been challenged because endings from ALND do not necessarily in one treatment decision. The overview analysis demon-states that adjuvant systemic therapy is associated with an approximately 30% reduction in the odds of recurrence for both node-negative and node-positive patients [17, 18]. In addition, studies by Lin et al. [19, 20] and Dees et al. [21]. Have demonstrated that for the majority of patients, systemic therapy recommendations are made based on primary breast tumor features. Potential morbidity from ALND is well known and includes sequelae such as lymphedema, sensory deceits secondary to disruption of the intercostobrachial nerves, and limitations with shoulder mobility. The risk of lymphedema ranges from 15% to 20%, and this risk may increase with more long-term follow-up [22, 23]. Because of these issues, several oncologists have proposed that ALND be avoided completely in patients with low-risk diseases, such as T1a cancers [24, 25]. Or that patient undergoes less invasive methods of surgically evaluating the axilla, such as lymphatic mapping and sentinel lymph node biopsy.

Preliminary data indicate that sentinel lymph node biopsy is an accurate means of predicting the axillary nodal status in more than 528 (95%) cases [26, 27]. However, a recent meta-analysis of 11 reported lymphatic mapping series evaluating 912 carcinoma patients has revealed a mean false-negative rate of 28 (5.1%) [28, 29]. The long-term outcome for those patients undergoing sentinel lymph node biopsy without completion ALND is unclear at present. Department of Surgery at Rajshahi Medical College Hospital, currently conducting a prospective, randomized study designed to evaluate this question, and this study will also answer the question of whether ALND does contribute to long-term survival. It will be several years, however, before data from this important study reach maturation. For those patients in whom ALND is deferred, it's known that axillary irradiation does end in low rates of regional nodal relapse; however, radiation of the axillary nodal basin may result in long-term adverse side effects that are comparable those of ALND. Reported rates of axillary failure in clinically node-negative.

breast cancer patients receiving no axillary treatment [30-32] axillary irradiation [33-35] and ALND are compared in Table ii It is clear that there is an increasing pool of patients who are undergoing limited axillary surgery or no axillary population of women who had all received primary radiotherapy for their breast cancers; many of them also received axillary irradiation and were therefore not candidates for extra radiation to the nodal basin at the time of their axillary recurrence. Disease-free survival was 205 (36.8%) at a median follow-up of 26.9 months in the Recht series, compared with the 61% disease-free survival seen in the present series for the subset of patients with early-stage disease at a median follow-up of 26.9 months. The survival difference is likely related to the longer follow-up and possibly to the higher rates of persistent axillary disease in the Recht series [36-40].

CONCLUSIONS

Whereas the oncologic benefits of prophylactic mastectomy have been well established, there remains a significant lack of appreciation of how effective the surgery and reconstructive strategies can potentially be in these patients. Although recommending or performing prophylactic mastectomy should always be done with circumspection if not reluctance, it comes with a potential profile of extremely high effectiveness in terms of cancer risk reduction, but also excellent cosmetic results, low surgical risk, and high levels of patient satisfaction.

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