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Original Research Article

Axillary dissection versus non dissection in negative sentinel node biopsy patients

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ABSTRACT

Background: The goal of this series was to compare performing axillary clearance versus none performing in patients with node biopsy negative.
Methods: This study included 114 patients had breast cancer , presented with breast mass no enlarged axillary node either clinically or radiologically and all patients had negative sentinel lymph node intraoperatively those patients presented to Sohag Cancer Center and General Surgery Department Sohag, Egypt during the period of May 2018 to May 2019. Analysis of the clinical presentation, grade of breast cancer and radiological findings was done. All patients with above mentioned criteria were fitted for the study.
Results: A total of 114 patients, all of them had sentinel lymph node negative, axillary dissection done in 55 patients of them while 59 patients had no dissection. We divided the patients in our series into group A (with axillary dissection) and group B with non-dissection; in group A 27 (49.1%) patients had lymphoedema on post-operative follow up while in group B none of patients complained from lymphoedema. Numbness was found in 11 (20%) patients among group A patients, while in group B none of patients complained from numbness. On follow up of seroma we discovered that in group A all the patients had seroma while in group B only 9 (15.3%) patients had seroma. None of our 114 patients either with or without dissection had recurrence on follow up period.
Conclusions: Clearance of the axilla in sentinel node negative patients has no significant difference in overall survival but also increased rates of lymphoedema, seroma and haematoma.

Keywords: Breast cancer, Axillary clearance, Sentinel node biopsy, Lymphoedema

INTRODUCTION

Dissection of the axilla is a surgical intervention in which axilla is incised to sampling, examine, or lymph nodes removal. Dissection of axilla has become the best technique in the staging and treatment of the axilla in breast cancer. In patients complaining of breast cancer (early stage) they have a 30-40% chance of positive axillary nodes and 20-25% chance if presenting through a screening program.[1]

Regarding breast carcinoma management staging of the axilla is an important step. Axillary lymph node status is considered a significant prognostic pathologic variable in primary breast cancer (operable) patients, and is still the accruent expector of survival and recurrence. Metastatic lymph nodes have also a prognostic importance.[2]

Dissection of the axilla was first carried out as part of invasive breast cancer treatment in the 18th century by a German surgeon called Lorenz Heister. Recently, the role and benefits of the dissection affected by the National Surgical Adjuvant Breast Project B-04 trial, which ended that dissection of the axilla has no survival effect. However, dissection of the axilla provides excellent axillary disease control as results of other studies, with

2% or less local recurrence rate that may improve the overall survival rate.[3]

Dissection of the axilla should be planned preoperatively proven axillary disease patients or with a sentinel node biopsy positive, clearance of the axilla is only curative in patients with positive node biopsy and so, doing clearance in all patients leads to at least 60% overtreatment of patients who are all negative node. Performing sentinel-node biopsy has transferred the approach to the axilla when compared with complete dissection of the axilla.[4]

A gradual change was noticed from performing clearance of the axilla in patients with sentinel nodes positive. (AMAROS) a recent trial, presented at the Annual Meeting of American Society of Clinical Oncology, compared radiotherapy to axilla with clearance in patients having sentinel node positive and found no significant difference in survival rate, but also lymphoedema rates is reduced in the radiation group.[5]

American College of Surgeons Oncology Group reported patients without clinical or radiological proof of axillary metastasis undergoing breast-conserving surgery with breast radiotherapy, with sentinel node positive, having no oncological benefit by having axillary dissection.[6]

National Comprehensive Cancer Network or American Society of Clinical Oncology guidelines recommend dissection of the axilla in patients with sentinel nodes micro metastatic disease, but doing it routinely has been questioned and many studies followed had shown no significant difference in axillary survival or recurrence for patients having sentinel node biopsy only versus complete axillary dissection.[7]

A systematic review that was published by the American Society of Clinical Oncology on doing SNB in breast cancer early stage to reach guidelines for the treatment of the axilla, and these are similar to those of the National Institute of Health and Clinical Excellence (NICE) recommendations in United Kingdom.[8]

SLNB is recommended for staging of patients with clinically lymph nodes negative. Dissection of the axillary nodes is the standard of care in those with a macrometastatic or micrometastatic positive SLN to maximize local control. If the SLN is negative, an axillary lymph node clearance is not necessary. ASCO and NICE recommendations for sentinel node, dissection of the axillary nodes alone and treating of the axilla after SLNB.[9]

This series was done to compare dissection of the axilla versus non dissection in patients with sentinel node biopsy negative.

METHODS

This study was a prospective study which was conducted at Sohag Cancer Center and Sohag Faculty of Medicine at Sohag Governorate Egypt, the data base was reviewed.

Agreement of ethical committee and consents from patients was obtained.

The study include only patients (females) with breast cancer having sentinel lymph nodes negative, while patients with sentinel node positive or detected axillary lymph node either clinically or radiologically were excluded from our study, during the period of this study from May 2018 to May 2019. Analysis of the clinical presentation, grade of breast cancer and follow up of patients to detect any complications was done.

All the data was recorded, tabulated and statistically analysed emphasizing on clinical data including patient age, risk factor, grade of breast cancer, all investigations laboratory and radiological will also be added and to follow up the patients up to eight months after discharge to detect any complications.

The data were analysed by SPSS data base with application of Chi-square test and test of comparison of proportions, p value less than 0.01-0.05 was considered statistically significant.

RESULTS

A total of 114 patients were admitted to the outpatient surgery clinic at Sohag Cancer Center and Sohag University Hospital complaining of breast cancer from May 2018 to May 2019. Patient age ranged from 30 to 67 years with a mean of 48.72 years at time of presentation.

All our patients were subjected to surgery which depended on site and size of mass, simple mastectomy was done in 51 (44.7%) patients, while 63 (55.3%) patients underwent breast conservative surgery.

Figure 1: Axillary dissection.

From our 114 patients, axillary dissection carried out in 55 (48.2%) patients group A, while 59 (51.8%) patients group B had no dissection just excision of mass either with simple mastectomy or breast conservative surgery (Figure 1).

We divided the patients in our series into group A (with axillary dissection) and group B (with non-dissection, in group A 27 (49.1%) patients had lymphoedema on post-operative follow up (Figure 2) while in group B none patients complained from lymphoedema.

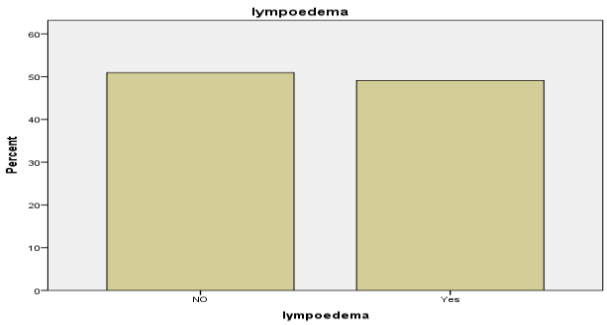

Figure 2: Lymphoedema.

Numbness was found in 11 (20%) patients among group A patients, while in group B none patients complained from numbness. On follow up of seroma we found that in group A all the patients complained from seroma while in group B only 9 (15.3%) patients had seroma (Figure 3).

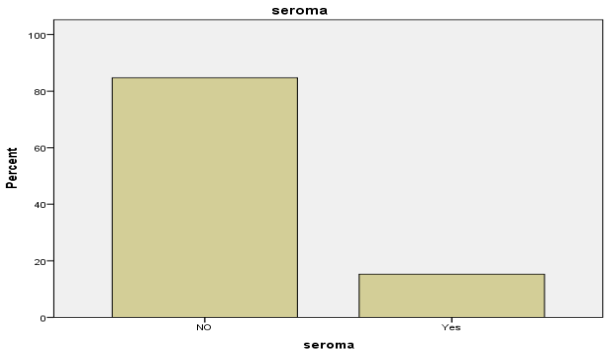

Figure 3: Seroma.

None of our 114 patients either with or without dissection had recurrence on follow up period.

When comparing p value between the two groups, there is significant relation between doing dissection and the development of lyphoedema, seroma and numbness, p value 0.005.

DISCUSSION

The sentinel lymph node technique depends upon the observation migration of the tumour cells from a primary tumor to metastasis to one or a more lymph nodes before it involves the other sites. We can identify these sentinel nodes through the injection of vital blue dye and/or radiolabeled colloid around the tumor, while their status accurately predicts that of the remaining regional lymph nodes. Sentinel lymph node biopsy has become the best technique for axillary staging.[10]

In this series we compare performing axillary clearance versus non-performing in negative nod biopsy patients, analysis confirms that clearance of the axilla is not obligatory in this setting if the patient has node biopsy negative.

Results of five years study, 3 IBCSG 23-01 trial phase comparing survival rates in breast cancer patients with one or more micro metastatic (≤2 mm) sentinel nodes randomly assigned to either dissection of the axilla or no differences were found in survival rates between the groups and showed that no axillary dissection is not inferiorly when compared to dissection of the axilla. The results of the study was after a median follow-up of 9.7 year.[11]

In this study we divided our 114 patients into two groups group A (with axillary dissection) and group B (no dissection) we concluded that there are no difference in survival rate between both groups as long as negative sentinel node but also the dissection was combined with complications.

We noted no differences between dissection of axilla or none after a median follow-up of 9.7 years, for the main endpoint of disease-free survival and the secondary endpoint of overall survival, and the proportion of patients with axillary failure in the no clearance of the axilla was acceptably low. These findings are matched with those of the 10-year follow-up analysis of the Z0011 trial.[12]

The follow up period in this series was relatively short compared to the previous results but reached the same results there is no difference in the outcome if you do dissection or not in negative node.

Early-stage invasive breast cancer the standard management is partial or total mastectomy and ALND of levels I and II, and occasionally of level III. About 30-40% of patients have positive axillary lymph nodes. The remaining 60-70% of patients are negative lymph node and therefore may be managed with dissection of axilla, with the disadvantage of developing early and late complications as seroma, pain, limited arm motion, numbness or lymphoedema of the arm and breast.[13]

Among our patients who underwent clearance of the axilla and thy were node negative they develop complications as follows, from 55 patients 27 (49.1%) patients had lymphedema, numbness were found in 11 (20%) patients and all the 55 patients complained from seroma.

Sentinel lymph node biopsy is considered a minimally invasive surgical procedure with significant lower morbidity than dissection of the axillary lymph nodes. Many studies had confirmed the efficacy of SLNB for staging of axilla. Sentinel lymph node long-term outcome without dissection of the axillary lymph nodes has not yet been evaluated and prospective randomized trials comparing SLNB alone vs SLNB plus ALND in negative SLN-patients as the American NSABP-B trial or the European ALMANAC trial are in the experimental phases regarding the local control of SLNB there are few data available and only a few reports on SLNB alone without further axillary clearance to date. Recurrence of the axillary disease, as reported in those studies, range between 0 and 1.4% and follow-up periods range between 22 and 39 months.[14]

As regard our study, after doing excision of breast mass either with breast conservative surgery or simple mastectomy we do sentinel node and we divided our patients into two groups, group A underwent dissection and group B had no dissection we compared the results between the two groups as regard the development of complications and the survival rates we found that there were no relation between dissection and survival or recurrence but also dissection accompanied with some complications.

Recurrence of the axillary disease after clearance of axilla ranges between 0 and 3%. No recurrence could be observed in about 200 patients with a median follow-up period about 36 months after axillary clearance only. If the true SLN had been missed and if we had an unknown false-negative rate, we should have observed 2-12% of patients with axillary recurrences, which were 4-24 patients. In frozen sections all our patients showed negative lymph node, H&E and IHC staining.[15]

In this study either dissected or not the recurrence rate after eight months follow up was zero.

CONCLUSION

Clearance of the axilla in patients with node negative has no significant difference in the survival rates but also increased rates of lymphoedema, seroma and haematoma, and so whenever we have a sentinel node negative you don't have to do axillary dissection.

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