Surgical Management of Breast Lesions at Tertiary Care Centre: An Institutional Experience of 100 Cases

**Authors**

Amrit Pal Singh Rana¹, Sachin Khanna², Satish Malhotra³, Manjit Kaur⁴

¹Assistant Professor, Department of Surgery, GGS Medical College, Faridkot, India  
²Junior Resident, Department of Surgery, GGS Medical College, Faridkot, India  
³Associate Professor, Department of Surgery, GGS Medical College, Faridkot, India  
⁴Associate Professor, Advanced Cancer Centre, Bathinda, India

**Corresponding Author**

Amrit Pal Singh Rana  
Department of Surgery, GGS Medical College, Faridkot, India  
Email: dramritpalsingh@gmail.com

**ABSTRACT**

Surgery is the mainstay of the treatment of breast swellings. Clinical examination and the diagnostic modalities are being used to identify the type of lesion and plan their surgical management. Here we are discussing our experience of management plans according to guidelines and application of new techniques. An audit of the 100 patients who presented in surgical outpatient door with various breast swellings was done. Data was analyzed from diagnosis and types of surgical management. Of the 100 breast lesions, 63 (63%) underwent modified radical mastectomy with axillary lymph node dissection, thoracoabdominal skin flaps were applied on eight patients. Sentinel lymph node dissection was done in five (5%) cases followed by axillary dissection in four with one case managed with breast conservative surgery. Total 17 cases (17%) were not diagnosed definitely before operation hence underwent diagnostic excision biopsy. In clinically node negative cases of carcinoma breast, accuracy of ultrasonography guided fine needle aspiration cytology was found to be more than 80%. Preoperatively diagnosed 11 (11%) benign cases underwent surgical excision. Incision and drainage was performed in 2 cases. In our experience of 100 cases of breast lesions, surgical management done as per guidelines provided good outcome. New techniques applied also gave fine results with good accuracy.

**Keywords**- Breast carcinoma, core needle biopsy, sentinel lymph node dissection, thoracoabdominal flap, Lumpectomy.

**Introduction**

Clinical guidelines have been established regarding the management of breast lesions in the terms of investigations and surgical management. [¹] Breast lesions in females are a common finding. The guidelines recommend that fine needle aspiration cytology (FNAC) or core needle biopsy (CNB) should be performed on all lesions preoperatively to establish a diagnosis and allow better planning of surgical intervention in palpable lesions. In cases where definitive preoperative diagnosis is not possible or carcinoma is suspected lumpectomy with wide margins should be the treatment of choice. This method can prevent a second operation and also reduces local recurrence. [²,³,⁴,⁵]
Material and Method
An audit of 100 patients who presented in surgical outdoor patient with various breast swellings was done. The patients presented with F:M ratio of 49:1 with mean age of 47.25± 13.37 (range 15–88) years. The results of diagnostic tests, including FNAC, ultrasonography, mammography (USG) and CNB were analysed. Type of surgery was obtained from retrospective analysis of operative notes.

Results
In the audit of total 100 cases, maximum surgeries done were Modified radical mastectomy (MRM) with axillary lymph node dissection (ALND) with skin flaps application where needed. Skin flaps were successful in 70% of the cases (Figure 1). USG guided FNAC was performed in 30/63 MRM cases with 83.33% accuracy. Sentinel lymph node dissection (SLND) (Figure 2) was done in five (5%) cases followed by complete axillary dissection in four and one case was managed with breast conservative surgery successfully.

Table: 1 Types of surgeries performed

| Surgery                        | No | F | M | Max. age (years) | Min. age (years) | Mean (age)±SD |
|--------------------------------|----|---|---|------------------|------------------|---------------|
| Modified radical mastectomy    | 63 | 62 | 1 | 88               | 23               | 50.18±13.05   |
| Lumpectomy                     | 17 | 17 | Nil| 60               | 28               | 45.26±9.8     |
| Excision biopsy (Benign)       | 11 | 10 | Nil| 60               | 15               | 37.46±16.07   |
| Axillary dissections post operative cases | 02 | 02 | Nil | 45               | 32               | 38.5±6.5      |
| Abscess                        | 02 | 02 | Nil| 42               | 28               | 35±7          |
| SLND                           | 05 | 05 | Nil| 42               | Nil              | Nil           |
| Total                          | 10 | 98 | 2 | 88               | 15               | 47.25±13.37   |

Discussion
Global cancer statistics show that breast cancer is the most frequently diagnosed cancer and the leading cause of cancer death among females, accounting for 23 percent of total cancer cases and 14 percent of cancer deaths. Breast cancer is now also the leading cause of cancer death among females in economically developing countries. [6] The diagnosis and surgical management of breast cancer is very critical to the prognosis of disease.

We have tried to manage the patients as accurate as possible. Breast cancer surgeries were done as per the guidelines and an audit of 100 cases was carried out. Although incidence of benign breast disease increases in the fourth and fifth decades and in malignant diseases the incidence continues to increase after menopause. In the current experience of 100 cases, mean age affected in 11 benign cases was 38.5 years ±6.5 and in 63 malignant cases was 50.18 years ±13.05. [1,3,7,8] It was suggested in the literature that FNAC results are benign with normal mammographic findings, patients should be kept under observation for 3–6 months. Excision biopsy was performed in all the FNAC proven benign cases. [1]

A variety of inflammatory changes can be seen in the breast. It can be a result of infectious agents, or without any etiology. It is to be differentiated from inflammatory breast cancer. In the present study 2% cases were of inflammatory breast disease and presented with abscess. After mammographic and
sonographic evaluation surgical management was done. One young patient underwent incision and drainage as per requirement of the management. [9]

In the second case tissue was also excised for histopathological examination. [10]

The management of palpable breast lesions is to attain preoperative diagnosis from biopsy and it is suggested in the literature that diagnosis is to be confirmed preoperatively with FNAC or CNB to reduce the number of surgical procedures. [1,5,11] In the present institution maximum efforts were done to reach at definitive diagnosis preoperatively. In the audit of 100 cases, 68 % cases were diagnosed preoperatively for carcinoma and surgery was performed as single-stage procedure. Catherine Hanley and fellow have mentioned preoperative diagnosis in 49.4% of the cases in their study. [12]

Amongst 68% cases, 98.5% cases were FNAC proven with only 0.5% cases undergone CNB. [1] As survival with breast-conserving therapy is comparable to that achieved with mastectomy in early-stage cancer, breast conservative surgery was performed in five patients. [13] As we are in learning stage of sentinel lymph node (SLN) biopsy, we performed SLN biopsy in five cases using methylene blue dye but followed by complete axillary dissection to check our results which were encouraging. In expert hands SLN biopsy results in decreased morbidity by avoiding complete axillary dissection to decide metastasis in axilla. [14,15,16]

In cases of carcinoma breast with clinically node negative disease, ultrasound of axilla to find out axillary metastasis and ultrasound guided fine needle aspiration cytology of suspected node was done and it was observed to be more than 80 percent accurate which is comparable with results shown by various authors. [17,18,19]

Amongst 63% cases of MRM, one (1.5%) case was male patient. As treatment of male breast cancer parallels that of carcinoma of the female breast. Although mastectomy is the mainstay of treatment, but for the fixed tumors radical mastectomy or modified mastectomy is the treatment of choice. [20,21]

In high number of cases (17%) with palpable lesions definitive diagnosis was not achieved on FNAC or mammography. It is a well known fact that excisional biopsy should be performed as wide local excision with resection of normal tissue around the lesion. [5] According to the Clinical Practice Guidelines for the Care and Treatment of Breast Cancer a lumpectomy was done using wide local excision of the intact tumour surrounded by tumour-free tissue in each and every case. [11] Seventeen lumpectomies were performed in our institution as single-stage operations. Also critical point is to remove the whole lesion in 1 piece with a surrounding cuff of normal tissue. Majority of the specimens were sent as per recommendations with specimens oriented for pathology using sutures. Amongst 17, only 6/17 (35%) cases were positive for malignancy and underwent second stage surgery. [1, 22]

In cases of carcinoma breast with extensive disease, after MRM autologous reconstructive surgery is the treatment of choice now days. Thoracoabdominal flaps were applied in eight cases of locally advanced cases of carcinoma breast with involvement of skin as fungating growth or ulcer. [23,24,25] Amongst that three showed flap necrosis and needed revision. Main cause of necrosis was infection due to co morbid condition like diabetes mellitus. Small marginal necrosis was observed in patients who have received neoadjuvant chemotherapy.

Conclusions

All the patients of breast lesions, managed surgically were analysed for the outcomes. It was concluded that the majority of the cases were treated as per the guidelines. Maximum efforts were done to reach at preoperative definitive diagnosis as well as preoperative plan of surgery. The results obtained were very good and satisfying.

References

1. The Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer. Clinical practice guidelines
for the care and treatment of breast cancer. CMAJ 1998;158 (3):S1-S40.
2. Cowen D, Houvenaeghel G, Bardou V, et al. Local and distant failures after limited surgery with positive margins and radiotherapy for node-negative breast cancer. Int J Radiat Oncol Biol Phys 2000;47(2):305-12.
3. Klimberg V. Advances in the diagnosis and excision of breast cancer. Am Surg 2003; 69:11-4.
4. Crowe JP, Patrick RJ, Rybicki LA, et al. Does ultrasound core breast biopsy predict histologic finding on excisional biopsy? Am J Surg 2003;186:397-9.
5. Newman LA, Sabel M. Advances in breast cancer detection and management. Med Clin North Am 2003;87:997-1028.
6. Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global Cancer Statistics. Ca Cancer J Clin 2011;61:69–90.
7. Ghossein NA, Alpert S, Barba J, et al. Importance of adequate surgical excision prior to radiotherapy in the local control of breast cancer in patients treated conservatively. Arch Surg 1992;127:411-5.
8. Porter GA, McMulkin-Tait H. Practice patterns in breast cancer surgery: Canadian perspective. World J Surg 2004;28: 80-6.
9. Dener C, Inan A. Breast abscesses in lactating women. World J Surg 2003; 27:130–3.
10. Tewari M, Shukla HS. Breast tuberculosis: diagnosis, clinical features & management. Indian J Med Res 2005;122:103–10.
11. Ball CG, Butchart M, MacFarlane JK. Effect on biopsy technique of the breast imaging reporting and data system (BI-RADS) for nonpalpable mammographic abnormalities. Can J Surg 2002;45:259-63.
12. Hanley C, Kessaram R. Quality of diagnosis and surgical management of breast lesions in a community hospital: Room for improvement? Can J Surg. 2006 Jun; 49(3): 185–192.
13. Wang L, Ouyang T, Wang T, Xie Y, Fan Z, Lin B et al. Breast-conserving therapy and modified radical mastectomy for primary breast carcinoma: a matched comparative study. Chin J Cancer Res. 2015 Dec; 27(6): 545–552.
14. Langer I, Guller U, Berclaz G, Koechli OR, Schaar G, Fehr MK et al. Morbidity of Sentinel Lymph Node Biopsy (SLN) Alone Versus SLN and Completion Axillary Lymph Node Dissection After Breast Cancer Surgery. A Prospective Swiss Multicenter Study on 659 Patients. Ann Surg. 2007 Mar; 245(3): 452–61.
15. Marrazzo A, Taormina P, Gebbiab V, David M, Riili I, Lo Gerfo D et al. Is sentinel lymph node biopsy more accurate than axillary dissection for staging nodal involvement in breast cancer patients? Chir Ital. 2007 Sep-Oct;59(5):693-9.
16. Gherghe M, Bordea C, Blidaru A. Sentinel lymph node biopsy (SLNB) vs. axillary lymph node dissection (ALND) in the current surgical treatment of early stage breast cancer. J Med Life. 2015 Apr-Jun; 8(2): 176–180.
17. Popli M, Sahoo M, Mehrotra N, Choudhury M, Kumar A, Pathania O et al. Preoperative ultrasound-guided fine-needle aspiration cytology for axillary staging in breast carcinoma. Australasian Radiology. 2006;50 (2):122-126.
18. Jung J, Park H, Park J, Kim H. Accuracy of preoperative ultrasound and ultrasound-guided fine needle aspiration cytology for axillary staging in breast cancer. ANZ Journal of Surgery. 2010;80(4):271-275.
19. Deurloo E, Tanis P, Gilhuijs K, Muller S, Kröger R, Peterse J et al. Reduction in the number of sentinel lymph node procedures by preoperative ultrasonography of the axilla in breast cancer. European Journal of Cancer. 2003;39(8):1068-1073.
20. Cloyd J.M., Hernandez-Boussard T., Wapnir I.L. Poor compliance with breast cancer
treatment guidelines in men undergoing breast-conserving surgery. Breast Cancer Res. Treat. 2013;139(1):177–182.

21. Comet B, Cutuli B, Penault-Llorca F, Bonneterre J, Belkacemi Y. Male breast cancer: a review. Bull Cancer. 2009 Feb;96(2):181-9.

22. Scarth H, Cantin J, Levine M. Clinical practice guidelines for the care and treatment of breast cancer: 3. Mastectomy or lumpectomy? The choice of operation for clinical stages I and II breast cancer (2002 update). CMAJ 2002;167:154-5.

23. Park JS, Ahn SH, Son BH, Kim EK. Using Local Flaps in a Chest Wall Reconstruction after Mastectomy for Locally Advanced Breast Cancer. Arch Plast Surg. 2015 May; 42(3): 288–294.

24. Persichetti P, Tenna S, Cagli B, Scuderi N. Extended cutaneous 'thoracoabdominal' flap for large chest wall reconstruction. Ann Plast Surg. 2006 Aug;57(2):177-83.

25. Patel KM, Hill LM, Gatti ME, Nahabedian MY. Management of massive mastectomy skin flap necrosis following autologous breast reconstruction. See comment in PubMed Commons below Ann Plast Surg. 2012 Aug;69(2):139-44.