

Feasibility of Round Block Mammoplasty As a Single Technique For Different Quadrants T1,T2 Malignant Breast Lesions. Fayoum University Hospital experience. A study of 25 patients.

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ABSTRACT

Oncoplastic techniques is a method to increase the rate of breast-conserving surgery that can avoid breast deformities and reduce rate of mastectomies. Round-block mammoplasty is one of these techniques
Objective: *this study aimed to assess the result of Round block mammoplasty technique in T1,T2 malignant breast lesions in different quadrants.* **Patients and methods:** *this study were included 25 female patients of different age groups with malignant breast masses at different breast quadrants the selection criteria of all these patient were the same as conservative breast surgery.* **Results:** *In this study of 25 patients the patients age ranged from 25 to 50 years, the tumors locations were 9 patients at the upper outer quadrant (36%), 5 patients at upper inner quadrant (20%), 7 patients at lower outer quadrant (28%) and 4 patients at lower inner quadrant (16%). Tumor size were ranging from 50x40 mm to 20x20 mm in different breast sizes .small ,medium and large. All margins of excisions were negative. No drains were inserted in any patient .seroma occurred only in 3 cases (12%). Excellent result with satisfied patients as regarding breast size and scar shape was present in 12 cases (48%), good result and satisfied patient as regarding scar shape was present in 8 cases (32%) and fair result with unsatisfied patients was present in 5 cases (20%).* **Conclusion:** *The round block technique as an oncoplastic technique can be used safely in all quadrants malignant breast lesions, except central quadrant and axillary tail with acceptable both oncologic and aesthetic outcome.*

Keywords: *Round block mammoplasty- conservative breast surgery- T1,T2 malignant breast lesions.*

INTRODUCTION

Breast conserving surgery (BCS) followed by radiotherapy is the standard treatment for most Breast Cancers as it provides not only equivalent outcome to mastectomy but also comparable survival rate with the benefit of keeping the breast.⁽¹⁾

In spite of the acceptance that most BCS defects can be managed with primary closure, the aesthetic outcome may be unpredictable and frequently achieve an unsatisfactory outcome.⁽²⁾

In fact, approximately 10% to 30% of patients submitted to BCS are not satisfied with the aesthetic outcome. The main reasons are related to the tumour resection which can produce asymmetry, retraction, and volume changes in the breast.⁽³⁾

Studies have suggested that, once 20% of the breast volume is excised, there is a clear risk of deformity. The average specimen from BCS weighs 20–40 g; as a general rule 80 g of breast tissue is the maximum weight that can be

removed from a medium-sized breast without resulting in deformity⁽⁴⁾

Oncoplastic breast surgery techniques allow for significantly greater excision volumes while preserving natural breast shape.⁽⁵⁾

Oncoplastic breast surgery describes the surgical treatment of breast lesions with various plastic surgery reconstructive techniques. It allows complete resection of local disease while achieving better cosmetic outcome. Increasing demand for reduced scars has led to the development of numerous minimal incision procedures.⁽⁶⁾

Since scar placement is a bit of a concern for most patients so various periareolar techniques are introduced in an attempt to eliminate scars on the breast by limiting them to the periareolar region. Among the oncoplastic techniques, round block technique was a useful procedure.⁽⁷⁾

Round block technique is a versatile technique that can be easily adopted for tumors in any location of the breast.⁽⁸⁾

The round block technique permits easy access to a tumor while leaving a very discreet

scar and, after the excision, allows reformation of good breast contour.⁽⁹⁾

PATIENTS AND METHODS

From February 2013 to March 2014, in the surgery department at Fayoum University Hospital after getting the approval from the ethical committee, 25 patients were enrolled to this technique the selection criteria of the patients were the same as conservative breast surgery, all patients were symptomatic and not screenly discovered, they are all had palpable breast masses.

The exclusion criteria include any tumor size more than 50 mm. patients with any previous breast surgery, multicentric lesions, multiple clinically palpable masses, skin diseases and previous radiotherapy at the same breast or chest wall. Tumors were located at different quadrants of the breast but centrally located tumors were not selected we had 9 patients at the upper outer quadrant, 5 at upper inner quadrant, 7 at lower outer quadrant and 4 at lower inner quadrant. the photos used in this study were taken only from patients who were agreed and the evaluation of the result done by giving score excellent , good and fair also was the patient satisfied or not as regarding size of the breast and scar shape.

The technique started by by making two concentric periareolar incisions the distance between both of them around 1 cm. figure (1), followed by de-epithelialization of the intervening skin The outer edge of de-epithelialization is incised towards the site of the tumor only and not all the circumference to avoid interruption of blood supply of nipple and areola complex. figure (2) and the skin flap is elevated in a similar way as performing a modified radical mastectomy. figure (3).

After elevation of the flap wide excision of the tumor and surrounding tissue is performed from the subcutaneous plane down to the pectoral fascia with a safety margin at least 5mm in all directions and marking of the margins was done by different length silk sutures to be examined by frozen section figure (4).

After removal of the mass and ensuring the adequy of the surgical margins by frozen section examination the borders of the excision cavity were marked by metallic clips to facilitate the post-operative radiotherapy.

Then the glandular flaps on both sides of the defects were mobilized from above the pectoral fascia .then the cavity can be closed easily by approximating the two glandular flaps which were mobilized from above and below and suturing them by absorbable suture (vicryle 2/0). figure (5,6,7) no drains were inserted and the periareolar incision were sutured by simple interrupted Sutures or subcuticular sutures (vicryle3/0). figure (8).

The periareolar incision in the round block technique has a better cosmetic result in comparison to the usual breast conserving surgery incision .

In all patients we did formal axillary evacuation, the axilla can be managed either by separate incision or through the same periareolar incision in patients with upper outer quadrant lesions. All of the patients had post-operative radiotherapy with or without other adjuvants therapy according to the postoperative pathology and follow up was continued for 2 years.



Fig. 1: The 2 circular incisions.



Fig. 2: Diepithelization of the skin between 2 circular incisions.



Fig. 3: Elevation of skin flap



Fig. 6: The two glandular flaps



Fig. 4: Specimen after removal and marking of the edges.



Fig. 7: Suturing the 2 glandular flaps



Fig. 5: Cavity after excision



Fig. 8: Suturing the periareolar incision at the end of procedure

RESULTS

In this study of 25 patients the patients age ranged from 25 to 50 years, the tumors locations were 9 patients at the upper outer quadrant (36%) ,5 patients at upper inner quadrant (20%),7 patients at lower outer quadrant (28%) and 4 patients at lower inner quadrant (16%).table 1

Table 1: Percentage of malignant tumors in each quadrant

| | |
|----------------------|-----|
| Upper outer quadrant | 36% |
| Upper inner quadrant | 20% |
| Lower outer quadrant | 28% |
| Lower inner quadrant | 16% |

Tumor size were ranging from 20x20 mm to 50x40 mm in different breast sizes .small ,medium and large. The distance between the tumor and margin of areola ranging from 20-60 mm. the tumor pathology were 13cases invasive duct carcinoma grade 2 (IDCa GII) ,3 cases IDCa GIII,4 cases IDCa GI and 5 cases invasive lobular carcinoma. table 2

Table 2: Pathological types and grades of tumors

| | |
|---------------------|-----|
| IDca GI | 16% |
| IDca GII | 52% |
| IDca GIII | 12% |
| Invasive lobular Ca | 20% |

All margins of excisions were negative .two cases (8%) had sloughing of the areola due to long incision in the deepithelized area resulting in wound gaping , wound infection and were treated by debridement of the necrotic tissues and repeated dressing till healthy granulation tissue appears then resuturing was done. Hematoma was not occurred in any case.

No drains were inserted in any patient .seroma occurred only in 3 cases(12%) with large excision cavity and was treated by repeated aspiration followed by antibiotic course .MRM was done only in one case (4%) with local recurrence after one year during follow up .table3

Table 3: Complications and local recurrence

| | | |
|------------------|---|-----|
| Wound infection | 2 | 8% |
| Wound gaping | 2 | 8% |
| Seroma | 3 | 12% |
| Skin sloughing | 2 | 8% |
| Local recurrence | 1 | 4% |

The weight of the excised specimens were ranging from 80g to 350 g .

Excellent result with satisfied patients as regarding breast size and scar shape was present in 12 cases (48%), good result and satisfied patient as regarding scar shape was present in 8 cases (32%) and fair result with unsatisfied patients was present in 5 cases (20%). Table4

Table 4: Aesthetic results and patients satisfaction

| | | |
|-----------|----|-----|
| Excellent | 12 | 48% |
| Good | 8 | 32% |
| fair | 5 | 20% |

DISCUSSION

By the use of this technique the vitality of NAC was preserved due preservation of the subdermal plexus by deepithelization of the skin (10) .also any quadrant of the breast can be accessed through the periareolar incision. In comparison to the usual breast conserving surgery scar the periareolar scar resulting after the use of round block technique is much better and acceptable by the patients. Figure^(9,10,11,12)



Fig. 9: scar of usual BCS



Fig. 10: Operative photo



Fig. 11: Early post operative side view

The average volume of breast tissue that can be removed by using the breast conserving surgery technique ranging from 20-40 gm without causing breast deformity specially in medium sized and large breast .by using the round block technique larger volumes can be removed without deformity of the breast ,up to 350 g was removed in this study from the large breast without any resulting deformities , The adoption of oncoplastic surgical techniques allows larger tumors to be excised safely without compromising cosmetic outcomes.(11) so this technique can be used in different breast sizes,small,medium or large breast. The mobilization of the glandular flaps on both sides of the cavity above from subcutaneous tissue and below from pectoral fascia allow their approximation and closure of the cavity without causing deformity of the breast shape, also this technique reduce the incidence of seroma formation post-operative and so limitate the use of drains, in this study no drains was inserted and only 3 cases had seroma.

The round block technique allows a good operative field that facilitates excision of the tumor with an adequate negative safety margin.

Oncoplastic procedures offer wider surgical margins and enhance the oncologic safety of the procedure, consequently. Achieving widely negative surgical margins is important for the oncological safety of breast conserving surgery.^(12,13,14)

In some cases the axilla can be managed from the same round block incision and avoid separate axillary incision especially in the upper outer quadrant lesions. The patients with an excellent and good results were those who had different tumor sizes in different breast sizes but in all of them there is accepted ratio between breast size and tumor size but those with fair result either due post operative complication or excision of large specimen from small breast so the breast volume become more small and elevated in relation to contralateral side.

CONCLUSION

The round block technique as an oncoplastic technique that can be used safely in all quadrants malignant breast lesions, except central quadrant and axillary tail with acceptable both oncologic and aesthetic outcome.and the better results can be achieved when there is accepted breast /tumor size ratio.

Conflict of interestL

I have no conflict of interest to declare.

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