

ORIGINAL ARTICLE

Excision of Fibroadenoma with an Upper Incision Compared To the Periareolar IncisionNAYAB BATIN FAROOQI¹, SAMIA NASEER², HAFIZ ABDUL HANAN ATARI³, VARDA BALOUCH⁴, ROMASA MUZAFFAR ALI JOYO⁵¹Woman Medical Officer, THQ Hospital Kahuta²Woman Medical Officer, Basharat Hospital, Rawalpindi³Post Graduate Resident Surgery and Allied, Tayyip Erdogan Hospital, Muzaffargarh⁴Assistant Professor Anesthesia, Pakistan Ordnance Factories Hospital, Wah Medical College, Wah Cantt⁵Women Medical Officer, Ministry of Health, UAECorresponding author: Varda Balouch, Email: drvardabalouch@gmail.com, Cell: +92 315 5036530**ABSTRACT****Introduction:** Breast fibroadenomas are removed traditionally with overlying incision on the tumor. The peri-areolar incision is a new and cosmetically important development for fibroadenomas excision.**Aim:** The aim of the analysis is to assess the peri-areolar method of excision of fibroadenoma.**Place and Duration:** In the surgical department of Benazir Bhutto Hospital and DHQ Hospital Rawalpindi for one-year duration from June 2020 to May 2021.**Methods:** The patients were selected by non-randomized technique and clinical data from 40 patients (Group A) who underwent excision of fibroadenoma via a peri-areolar incision and 42 patients who underwent the overlying technique of incision were analyzed retrospectively, and the parameters were evaluated such as the duration of the operation, the overall cosmetic outcomes and postoperative complications. The peri-areolar incision technique is explained in relations of indications and the surgical technique.**Results:** The use of the peri-areolar technique resulted in faster postoperative complications (4/40 vs 2/40, $p = 0.072$). The 6-month follow-up exhibited that the subjects who experienced peri-areolar procedure had improved cosmetic results (95% group A vs 71.4% group B, $p = 0.001$).**Conclusions:** Peri-areolar incision gives improved cosmetic results compared to the overlying technique of incision, at the expense of minor postoperative complications.**Keywords:** Areola, Breast fibroadenoma, Peri-areolar incision.**INTRODUCTION**

Fibroadenomas are benign tumors most commonly found in women under 30 and are the most common tumors after carcinomas¹⁻². They occur as a result of the action or overreaction of estrogens; Nevertheless, conservative treatment with Danazol or Progesterone often fails³⁻⁴. However, conventional treatment is generally measured acceptable and safe afterwards the tripartite valuation combining radiological, pathological and clinical data⁵⁻⁶. New diagnostic and therapeutic techniques such as percutaneous radiofrequency ablation and ultrasound-guided vacuum biopsy are not available up till now or used widely⁷. Patients under conventional management should be withdrawn if symptomatic changes occur and the validity of clinical changes should be evaluated. However, a huge number of subjects choose to have immediately excision or some time later for fear of discomfort and were treated conservatively. Therefore, solitary resection by surgery is curative⁸⁻⁹. In this study, surgery was recommended for patients under 35 years of age. • Symptomatic patients. • Cosmetic problems or anxious patients. • Recent increase in tumor size (less than 6 months). Usually, excision by surgery is made via an incision that over the mass¹⁰. The outcome will be a noticeable scar. The peri-areolar incision, historically defined in the treatment of gynecomastia, has the benefit of masking the scar on the dark skin of areola¹¹. Methodological complications rise in lesions located away from the areola, which may require subcutaneous tunneling, may result in skin lesions¹². Therefore, the practice of the peri-areolar incision must be carefully selected. There is minute information in the studies on the practice of peri-areolar incision in reports of contraindications, indications, complications, surgical technique and results. The aim of the analysis is to assess the peri-areolar method of excision of fibroadenoma.

METHODOLOGY

This cross-sectional study was held in the surgical department of Benazir Bhutto Hospital and DHQ Hospital Rawalpindi for one-year duration from June 2020 to May 2021. All subjects gave permission and the study was approved by the hospitals health commission. A comparative, retrospective design was used. The peri-areolar practice was used in the subsequent patients: •

Subjects with a diameter of the areola > 3.5-5 cm. • < 5 cm distance from the outer edge of the mass to the edge of the areola. • < 3cm size of Fibroadenoma and < 35 years of age.

The peri-areolar technique Contraindications encompassed:

- large tumour of greater than 5cm and small areola
- Doubt of a malignant tumor.
- Distance from mass outer edge to areola greater than 6cm.
- Age > 35 years
- Nonpalpable lesions.

The analysis included 82 patients who experienced excision of fibroadenoma encompassed in the analysis according to the conditions mentioned above. 27.5 years was the mean age of patients (13-37 years) and 6 months was the median follow-up (5-8 months). Histopathology revealed fibroadenoma in all cases. From 82 patients, 40 were in group A (group given peri-areolar incision) and 42 were in group B (group done with overlying incision).

The supine position was used in all patients with the arms abducted 90 degrees, and marking for the incision on the skin prior to surgery was done. The intravenous and local anesthesia was given. In the peri-areolar group, an incision was given from the edge of the areola; Subcutaneous dissection was executed till the tumor was grasped. At this time, incision was given radially through the breast tissue to the mass. The mass was excised and grasped by lifting a skin flap including a thin 2-3 mm wide tissue rim was removed from the periphery of the mass. Hemostasis was achieved prior to closing. A chest bandage was applied in the place wherever the subcutaneous tunnel was made.

A curved incision was given just above the palpable mass for the overlying group. The remainder of the section was the same as in the peri-areolar group. The follow-up was carried out up to 8 months after the procedure.

Primary complications after surgery include postoperative bruising of the skin flap, hematoma and pain on the first night; maximum of the symptoms resolved after conservative treatment and oral anesthesia. Long-term assessment comprised the assessment of the width and length of the scar, and the patient's subjective feelings about the scars. The width of the scar was divided into 4 groups as 1 (minimum; less than one-mm), 2 (discreet, one to two-mm), 3 (moderate, two to three-mm), 4 (marked greater than 3mm). The patients' feelings about the cosmetic result were assessed 6 months after the procedure, asking them to rate the scar from 1-4 on rating scale (excellent will

be given 1, good will be given 2, 3 will be given moderate and 4 will be given poor). Areola size, size of tumor, distance between the tumor areola and operative time are articulated as mean ± standard error of the mean. The student's t-test was used to express differences in both groups. Early complications and cosmetic outcomes were related by means of the chi-square test, and p <0.05 was significant. All analyses were performed with SPSS version 21.0.

Table 1: scar Grading

| Score | Scar width |
|-------|---------------|
| 1 | ≤ 1mm |
| 2 | > 1mm - ≤ 2mm |
| 3 | > 2mm - ≤ 3mm |
| 4 | > 3mm |

1= Minimal, 2=Discreet, 3=Moderate, 4=Marked

RESULTS

The patients in both groups endured the treatments well. Patients in A group had earlier complications postoperatively, but they were not higher significantly compared to the B group (4/42 vs 2/40, p = 0.072). Operation time in A group was lengthier as compared to the B group (43.4 ± 4.85 minutes vs. 41.33 ± 4.81 minutes, p = 0.004). The mean length of the scar was 4.5 ± 0.8 cm in A group and 4.8 ± 0.4 cm in the B group, p = 0.036. The subjects in group B had significant scars compared to group A (19.1% vs 7.5%, p = 0.130).

Table 2: Difference between group A and A in tumor diameter, areola diameter, operation time, distance between areola border and mass (DBABM), complications and scar length

| | Group A | Group B | P Value |
|---------------------|-----------------|------------------|---------|
| Areola diameter | 4.6 ± 0.7 cm | 4.3 ± 0.5 cm | 0.005 |
| Tumors diameter | 2.1 ± 0.8 cm | 3.1 ± 0.3 cm | 0.000 |
| DBABM | 2.9 ± 0.5 cm | 4.2 ± 0.9 cm | 0.000 |
| Operation time | 43.4 ± 4.85 min | 41.33 ± 4.81 min | 0.004 |
| Scar length | 4.5 ± 0.8 cm | 4.8 ± 0.4 cm | 0.036 |
| Early Complications | 4 | 2 | 0.072 |

DISCUSSION

Historically, peri-areolar incision was introduced in 1928 for the treatment of gynecomastia and has recently been adapted for augmentation mammoplasty and reported as a "gateway to the breast"¹³⁻¹⁴. It was originally used to treat fibroadenoma and has shown outstanding outcomes in younger patients, counting youngsters¹⁵. Presently, surgical texts recommend the use of a peri-areolar incision if possible. The longer duration of surgery in patients in group A, though statistically significant, has diminutive worth in clinical practice (the variance was 2 mints in the current scenario)¹⁶. Surgeons require improvements in surgical techniques such as exposure, haemostasis, and occlusion. Skin flap hematomas can be the result of over-traction during operation. They generally resolved deprived of the necessity for vigorous treatment¹⁷⁻¹⁸. A good, thick skin flap containing all the subcutaneous fat and skin is required to prevent necrosis of the flap and the formation of a cutaneous flap hematoma. However, most of the complications appeared at the beginning of the learning curve and were found to be preventable and minor¹⁹⁻²⁰. They did not interfere with the long-term aesthetic effect. The peri-areolar technique of incision involves extensive dissection of the lactiferous ducts. Lactation problems could not be assessed in this study²¹. However, in order to lessen injury to the lactiferous ducts, the plane of dissection between breast tissue and subcutaneous fat must be determined and the edge of the incisions should be pulled upwards²²⁻²³.

CONCLUSION

The results support the use of a peri-areolar incision to remove benign fibroadenomas. Thanks to careful observance of the criteria

for selecting patients, this technique ensures oncological and aesthetic safety.

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