



Periareolar Incision for Resection of Bilateral Multiple Breast Fibroadenoma in 27-year-old Indonesian Woman – A Case Report

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Abstract

BACKGROUND: A breast lump is a major health concern among women and Fibroadenoma (FA) is the second most common tumor in the breast and is the most common tumor in women younger than 30 years and only surgical resection is curative. The conventional surgical excision is through an overlying incision of the mass and then developed another incision location due to cosmesis concern which is through a periareolar incision.

CASE PRESENTATION: A 27-year-old woman presented with painless slowly growing bilateral multiple breast lump for 1 year. On physical examination, we found bilateral multiple solid masses, with six masses on the lateral inferior quadrant, lateral superior quadrant, medial superior quadrant on the right breast, and four masses on the same quadrant of the left breast, well-circumscribed, and mobile. From the ultrasound, we found well-defined echogenic thin-walled masses suggesting FA. We perform multiple excision from the bilateral periareolar incisions. Periareolar incision leaves less scar and better cosmetic resulted in higher satisfaction level among women. We found no complications such as nipple paresthesia, the collapse of the nipple-areola area, hematoma, skin necrosis with only 5 ccs of bleeding, and duration of the surgery same as conventional incision.

CONCLUSION: Periareolar incision for removal of the bilateral multiple FA is a favorable technique and recommended.

Edited by: Ksenija Bogoeva-Kostovska
Citation: Hermansyah D, Halomoan SM, Simamora YR, Pricilia G, Firsty NN. Periareolar Incision for Resection of Bilateral Multiple Breast Fibroadenoma in 27-year-old Indonesian Woman – A Case Report. Open Access Maced J Med Sci. 2022 Apr 23; 10(C):172-175. https://doi.org/10.3889/oamjms.2022.9345
Keywords: Breast; Multiple fibroadenoma; Oncologic; Periareolar incision
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Received: 11-Mar-2022
Revised: 10-Apr-2022
Accepted: 13-Apr-2022
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Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
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Introduction

Breast lump is a major health concern among women and fibroadenoma (FA), the second most common tumor in the breast usually presents with pain-related symptoms and the patient usually shows anxiety or physiological distress; either caused by morbidity or mortality outcomes, or even cosmesis aspect after the FA managed surgically. The risk of FA increased in women under 30 years old, reduced with aging and show significant drop of incidence at menopause [1]. Triple assessment of mass by clinical examination, ultrasonography (USG), and fine-needle aspiration cytology is a very useful diagnostic tool to evaluate breast mass thoroughly, hence, the operator may determine the most appropriate approach [2].

Conservative treatment-only suggestion is correlated with relatively longer monitoring period and possibly causing anxiety or discomfort for patients; hence, surgical resection remained as the curative approach in FA of the mammae-especially in multi-lumps identified case. However, the conventional

surgical procedure, that is, FA excision through an overlying incision (FETOI) of the mass is associated with much dire consequences on cosmesis outcomes. Consequently, investigation toward alternative and different incisional method practically in location due to the cosmesis concern through periareolar incision is being engaged to attain the particular fulfillment of the latterly mentioned issue. Especially, considering the availability of USG-guided vacuum assisted breast biopsy is established thus radiological confirmation in multiple-FA-suggested case should be available as well [3], [4].

In this case, we decided to perform FA excision through a periareolar incision (FETPI) in a 27-year-old woman with radiologically confirmed multiple FA of mammae bilaterally to depict the favorability of the approach clinically or even on the perspective of the remarkable cosmesis aspects. Implementation of periareolar approach in this case was aimed to depict the cosmetic outcomes in such challenging circumstances since the average number found in multiple FA was 3–4 in a single breast, hence, the findings of more than 5 mass should partially represent the cosmesis aftermath justifiably [5], [6].

Case Presentation

A 27-year-old nulliparous women presented with a year history and main complaint of multiple breast lump on both breasts, with the history of slowly but progressive growth of those lumps to the size of marbles at the presentation. The patient experienced mild pain (VAS 5-6) and tenderness over each lump without any marked discoloration or constitutional symptoms reported by the patient. There was no significant family history or similar problems and was not exposed to irradiation in the past. Patient experienced menarche at the age of 12 with history of long-standing irregular menstrual cycle. There was no history of contraceptive usage and other comorbidities. Her bodyweight was 50 kg and her body height was 1.56 m with body mass index 20.5 kg/m². From the operator's clinical examination, we found multiple discrete masses with six masses on the lateral inferior quadrant, lateral superior quadrant, medial superior quadrant on the right breast, and four masses on same quadrant of the left breast that were well circumscribed and freely mobile with the size of 3.4 cm in longest diameter. Breast ultrasound revealed multiple well-defined echogenic thin-walled masses with lobulation at different positions and various sizes which were corresponding with suspected multiple FA diagnosis at early presentation. Intralesional microcalcification, neovascularization, or the other malignancy-related findings on ultrasound imaging were not found (Figure 1).

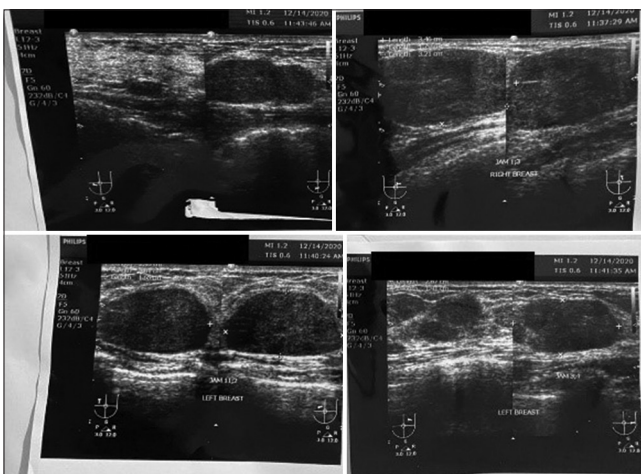


Figure 1: Ultrasonographic imaging of the patient's right (top) and left (bottom) breasts

In preoperative session, the patient stated that her main concern is the cosmetical outcomes postoperatively; considering the patient was relatively young at age, productive, and currently unmarried, we believe that the introduction of a minimally affecting approach to alleviate her symptoms was recommended using FETOI, in which patient agreed on the procedure. Therefore, under general anesthesia and after marking the surface projection of the mass on the skin or measuring the distance of the masses to the areola,

we performed bilateral periareolar incision and flap on the subcutaneous tissue from the incision site to the mass using skin hook. The incision was done by only a quadrant to half long of total areola surface. Identification of the mass from the lateral inferior quadrant to media superior quadrant of the right breast, we found and completely remove 12 masses. The same procedure performed on the left breast where we found seven masses with same decision as the contralateral side. Electrocoagulation technique was used to stop any occurring bleeding. The surgical residual cavity was not sutured and a drainage tube was not placed. The subcutaneous adipose layer was sutured with 40 absorbable interrupted sutures, followed by intradermal sutures.

After the surgery, the resection site was compressed using bandages without any drainage tube placed on the incision. Histopathological analysis from the excised specimens was confirmed of to be breast FA. We closely followed-up the patient's condition especially 24–48 h postoperatively to identify any possible early suggestive complication, for example, flap necrosis of the nipple, ongoing bleeding, and the other emergent findings in which absent according to our final report (Figure 2). The pain score of the patient had receded to 2–3 in VAS scale after 48 h postoperatively and diminished completely after 1 week after procedures. The patient reported to be comfortable and favor the minimal acute operative scar in which she fully accepted from the cosmetical outcomes of the procedure. Two months after the procedure on routine post-operative follow-up, both breasts appearance had returned back to almost pre-operative condition with only slight procedure-related scar at the top line of both areola (Figure 3).



Figure 2: Post-operative incision and the 19 collected masses from both breasts. The clinical picture was the patient's breast 24-h postoperatively



Figure 3: 2 months after follow-up

Discussion

Benign breast tumors are common in women, but traditional surgical resection method or FETOI for the various types of this mass affects the appearance of the breast and leaves obvious scars [7], [8]. The conventional method of FA resection commonly used by surgeon is a radial or arc incision along the skin above the pathological changes of the breast, to minimize damage to the mammary ducts leaving obvious post-operative scarring seriously affects the appearance of the breast. There will be more scars left after removal of the mass and the bilateral breasts will be asymmetrical if there are multiple lesions resulted much psychological pressure and affect patients' quality of life [6]. These are the reasons that make periareolar incision being welcomed by female patients with BBT with satisfactory was high at 98% [3].

Mammary tissues have good elasticity and softness. These anatomical structures ensure that the breast has a certain mobility and is relatively stable [4]. The skin of the areola area is relatively thin and has good elasticity and strength, with a wide range of resection techniques available. At present, discussed approach in this study is a technique, in which the operative procedure was done by the incision through periareolar tissue, that is, FETPI as the method was first introduced by Dufourmentel [7]. Certain studies have previously reported that there are no differences between a FETPI and FETOI incision with regard to the duration of surgery or the amount of bleeding; but another studies have reported that a resection through a periareolar incision requires more time (~2 min) and results in more bleeding (~10 ml) compared with the traditional surgical method [5], [6], [8]. In this case report, procedure's duration is 60 min with only 5 cc blood loss durante surgery.

There is a weakness with regard to appearance that is the possibility of flatness or collapse of the nipple-areola area caused by the characteristics of the breast, such as more mammary glands and a thin fatty layer; and then surgical factors, such as too much resection of the subcutaneous mammary tissues, particularly tissues under the nipple-areola area; and breast mass factors, such as a large mass occupying the whole breast or a tumor located in the deep areola [3], [9]. A relatively shallow incision on the anterior of the superficial fascia of the breast also reduced the chance of ductal injuries and a minimal-sized incision (mostly half of the corresponding areola's diameter) will also prevent complete isolation of nipple-areola junction [10], [11]. In this patient with normal fatty layer, with not too much resection of the subcutaneous mammary tissue but with multiple relatively large mass, we found no collapse of the nipple-areola area post-operative and 2-month follow-up of the patient (Figures 2 and 3).

Our surgery case report of favoring the external appearance or cosmetic aspect in this patient was concordant with a review by Cerrato and Labow, as they view FETPI may minimize visible scarring [12]. Liu *et al.*, in a comparative cohort study stated that cosmetic assessment 6 month after the procedures yielded statistically better outcomes in FETPI group, although early post-operative complication, for example, nipple sensation losses were more apparent in the FETPI group, hence, considered as possibly the most remarkable side-outcomes of the procedure. Those findings were also concordant with a report by Kong *et al.*, in which revealed the incidence of nipple paresthesia for periareolar incision was higher compared to the traditional FETOI approach [3], [6]. The incidence of complications such as pain, hematoma, and skin flap bruising at post-operative day 1, day 2, and day 3 follow-ups did not differ significantly between two intervention groups who underwent overlying incision and periareolar incision [2]. In our patient, we found pain with VAS score 2, no hematoma and skin flap bruising post-operative.

In our patient, there was no drainage tubes placed in the incision, compression was applied using bandages. This reduced the exudation of the surgical area and contributed to the recovery of the breast. Particular attention was paid to avoid compression of the incision, nipple, and areola, so as to prevent necrosis of the skin edge and incision flap, and ischemic necrosis of the nipple and areola [3], [13]. No skin necrosis was observed for 2-month follow-up duration. Henceforth, according to our report, we found that the removal of multiple FA mammae bilaterally can be undertaken by minimal periareolar incision without any remarkable complications yet favorable long-term cosmetic outcomes in this patient; delineating the superiority of this procedure to achieve both oncological and cosmetical aspect of the case.

Conclusion

Periareolar incision for excision management of the multiple FA of the breast successfully performed in our case with good cosmetic and high satisfactory level, we found no complication. We found similarities result from other study and strongly suggest the utilization of this type of incision for patient which crucially favoring cosmetic aspect as one of the preferred main treatment outcomes especially for the younger-age patients to maximize individual request by each patient.

Declaration

Ethics approval

Since this literature is classified as case-report-intending to improve and provide better understanding the reported case, our view toward this particular issue is that none ethics approval was required to deliver this case to the forum; even though we also believe that the patient's consent is unquestionably essential to be confirmed, as elaborated in the next section.

Consent to participate and publication

The informed consent was obtained from the patient before any procedure was carried out. Accordingly, the patients (the 27-year-old Indonesian woman in this study) also had consented the documentation, further discussion, and possible publication of the case by clinical science development intention; including the patient's early presentation to the final follow-up investigations as represented by the figure we provided in this study.

Authors' contributions

All authors' involvement was proportionated according to the CRediT taxonomy to capture detailed contributions in the report of this case, which are:

Conceptualization: D.H., S.M.H., Y.R.M.S., G.P.; Data duration: S.M.H., Y.R.M.S., G.P.; Formal analysis: D.H., S.M.H.; Funding acquisition: Not applicable; Investigation: D.H., S.M.H., Y.R.M.S., G.P.; Methodology: Not applicable; Project administration: D.H.; Resources: D.H.; Software: S.M.H., Y.R.M.S., G.P.; Supervision: D.H.; Validation: D.H., S.M.H.; Writing - Original draft: D.H., S.M.H., Y.R.M.S., G.P.; Writing - Review and Edit: D.H., S.M.H.

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