



Patient Satisfaction in the Complete Removal of Giant Breast Fibroadenoma under Vacuum-Associated Breast Biopsy Procedure

Monica Bellynda¹, Kristanto Yuli Yarso^{2*}

¹Department of General Surgeon, Sebelas Maret University, Surakarta, Central Java, Indonesia; ²Department of Oncology Surgeon, Sebelas Maret University, Surakarta, Central Java, Indonesia

Abstract

Edited by: Igor Spiroski
Citation: Bellynda M, Yarso KY. Patient Satisfaction in the Complete Removal of Giant Breast Fibroadenoma under Vacuum-Associated Breast Biopsy Procedure. Open Access Maced J Med Sci. 2021 Apr 28; 9(C):40-42. <https://doi.org/10.3889/oamjms.2021.5929>
Keywords: Fibroadenoma; VABB; Satisfaction
***Corresponding author:** Kristanto Yuli Yarso, Department of Oncology Surgeon, Sebelas Maret University, Surakarta, Central Java, Indonesia.
E-mail: yarsaonko@gmail.com
Received: 25-Feb-2021
Revised: 15-Apr-2021
Accepted: 19-Apr-2021
Copyright: © 2021 Monica Bellynda, Kristanto Yuli Yarso
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interest exists
Open Access: This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

INTRODUCTION: Fibroadenomas are one of the most common benign tumors of the breast in the adolescent population. They account for 68% of all breast masses and 44–94% of all biopsied breast lesions. Fibroadenomas can range from asymptomatic masses to painful and rapidly growing tumors that can cause significant esthetic distortions of the breast. With breast examinations becoming common in women as young as their 20s, excision of benign breast tumors using vacuum-assisted breast biopsy (VABB) became more common. The VABB procedure with ultrasound guiding is still used for removal benign breast tumors.

CASE REPORT: A 24-year ago woman presents with complaints of a lump in the right breast for 3 years, the lump is slow growing. The mass diameter is about 6 cm and no ulcers. Ultrasound examination found a solid mass, firm boundaries, regular contours, mobile in the outer quadrant of the right breast, no specific microcalcification size 6.13 cm × 3.11 cm × 5.33 cm (BIRADS 4a). Core biopsy examination showed fibroadenoma mammae intracanalicular and pericanalicular. We used an 8G needle and got 458 slices about 100 g. After the procedure, a total removal is obtained by ultrasound examination from a previously existing mass of 6 cm.

CONCLUSIONS: The VABB procedure is very effective and efficient in removing breast fibroadenoma (benign lesion) and the results are satisfactory. The advantage of this procedure apart from the cosmetic aspect which does not leave any marks is also a high level of safety. From our case, we can take complete removal with a diameter of 6 cm, whereas in the previous literature, it can only remove a mass of 3–4 cm in size.

Introduction

Fibroadenomas are one of the most common benign tumors of the breast in the adolescent population. They account for 68% of all breast masses and 44–94% of all biopsied breast lesions. Fibroadenomas can range from asymptomatic masses to painful and rapidly growing tumors that can cause significant esthetic distortions of the breast. Given the prevalence of fibroadenomas in the adolescent population and the psychosocial morbidity of finding a mass in the adolescent breast, it is imperative for physicians treating adolescent patients to be familiar and up to date with this disease process [1]. The treatment of this type of tumor is removal. The conventional tumor removal, open surgery, has disadvantages such as invasive method, need post-operative care, and leaving scars [2]. Vacuum-assisted breast biopsy (VABB) was developed in 1995 by Fred Burbank and Mark Retchard. VABB needles can have different diameters: 8G, 11G, or 14G. With one insertion, the 8G needle can collect 250–310 mg of tissue, the 11G can collect 83–116 mg of tissue, and the 14G needle can collect 40 mg of tissue with one insertion. The 8G needle is capable of resection of palpable or unobservable breast lesions

smaller than 3 cm, as well as several larger lesions [3]. The FDA (US) and NICE (UK) have approved VABB for complete removal of fibroadenoma.

Ultrasound guidance is applied to give real-time guidance and considerable progress was made by high-resolution linear transducer [4]. However, ultrasound cannot identify microcalcification because the inner region of the lesion contains echogenic glandular tissue, thus requiring expert operators [5].

Case Report

A 24-year ago woman presents with complaints of a lump in the right breast for 3 years, the lump is slow growing. The patient has 1 child aged 4 years. There is no history of hormonal contraception and no family history of breast cancer. Physical examination found asymmetrical breasts, right breast mass/lump number one with diameter size 6 cm, with springy, mobile consistency, firm boundaries, and without tenderness. No enlargement of lymph nodes in the armpits, neck, and supraclavicular (Figure 1).

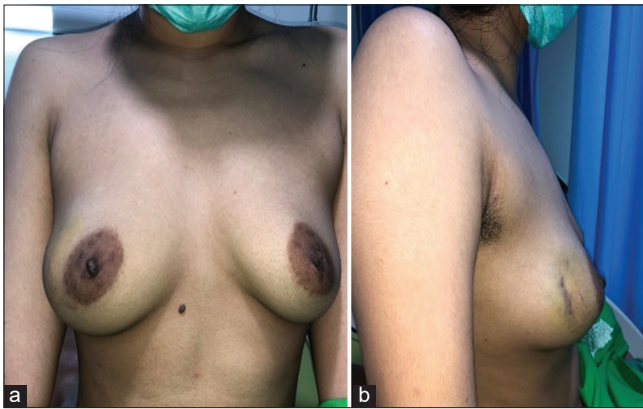


Figure 1: A 24-year-old woman before vacuum-assisted breast biopsy

Ultrasound examination found a solid mass, firm boundaries, regular contours, mobile in the outer quadrant of the right breast, no specific microcalcification size 6.13 cm × 3.11 cm × 5.33 cm (BIRADS 4a) (Figure 2). Core biopsy examination showed breast fibroadenoma mamma intracanalicular and pericanalicular. The patient chose to do the VABB action for cosmetic reasons. We used an 8G needle and got 458 slices about 100 g (Figures 3 and 4). The complication obtained is a hematoma. One month after the complete removal procedure, the ultrasound examination showed no recurrences (Figure 5). After 3 months of procedure VABB, we assessed patient satisfaction with the UNS-BsQ8 questionnaire. Moreover, the results obtained excellent condition after surgery, excellent wound healing progress, strongly disagree about cost is expensive, never feel pain in the surgical site, never feel pain in the shoulder, excellent scar after surgery, and the scar never makes uncomfortable, and obtained score of 40.

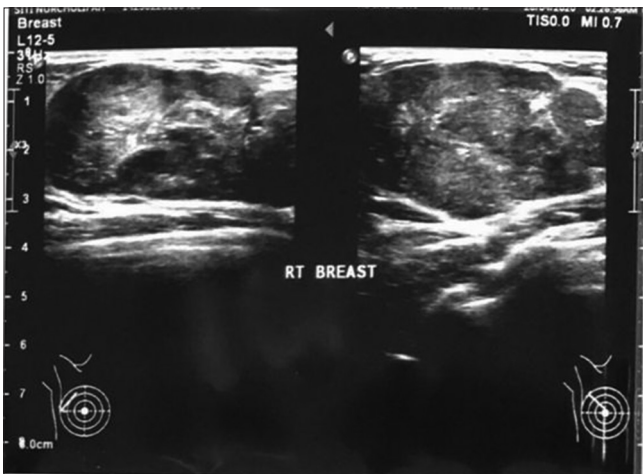


Figure 2: The ultrasound on the right breast before vacuum-assisted breast biopsy

Discussion

Fibroadenomas are common benign lesions of the breast that usually presents as a single breast mass

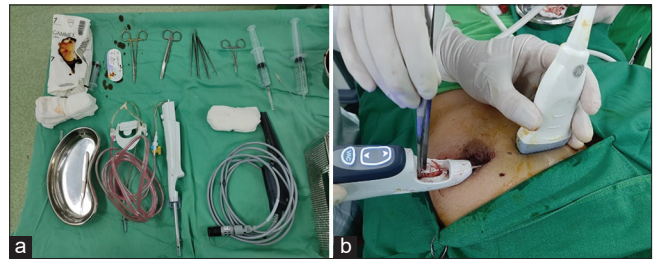


Figure 3: (a) The tools for vacuum-assisted breast biopsy (VABB) using 8G needle, (b) the procedure of VABB

in young women. For a long time ago, treatment for this kind of tumor is follow-up or opens surgery. Follow-up is for young patients, small tumor (<1 cm), and multiple lumps. VABB will give the patients a good option because it is less painful, does not leave a big scar and multiple lumps could be removed in 1 time. VABB has been performing since 1995 and becoming an efficient device for biopsy of breast lesions. The probes of VABB are bigger enough to provide large sample for histology. The FDA (US) and NICE (UK) have approved VABB for complete removal of fibroadenoma.

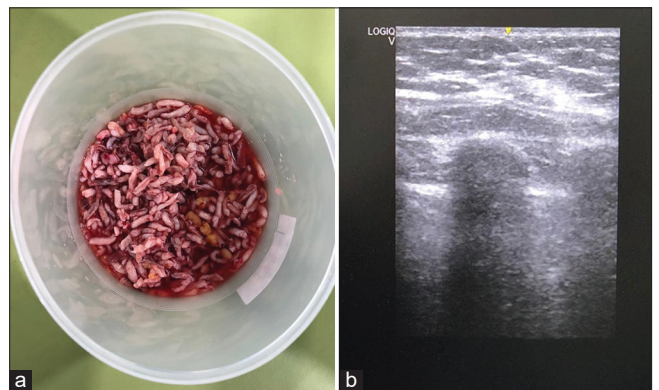


Figure 4: (a) The sliced mass after vacuum-assisted breast biopsy (VABB), (b) the ultrasound on the right breast after VABB

In the past few years, minimal invasive complete excision of benign breast tumors has quickly been accepted as an alternative technique for open surgery [6]. The size of the lesion that is able to use VABB is around 5 mm which is not applicable for core biopsy [7]. A series of reports from Karol in 2010 showed that a mass removal of 50–60 mm was not able to complete (Karol *et al.*, 2010). VABB has

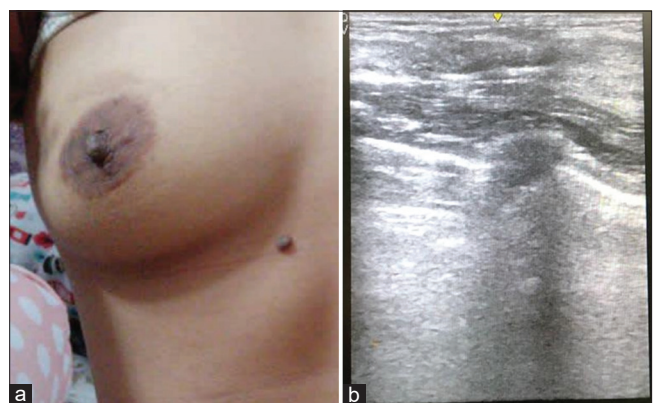


Figure 5: (a) Slight hematoma after vacuum-assisted breast biopsy (VABB), (b) the ultrasound on the right breast a month after VABB

several advantages, there is no need for compression, no radiation hazard, relatively cheaper, and can be performed with the patient in more comfortable position [5]. The disadvantages of VABB are more difficult techniques and require experienced radiologists and breast surgeons [2]. The complications of VABB are pain, hematoma, skin ecchymosis, and active bleeding [8]. In our case, there is hematoma as complication of VABB can disappear without leaving lesions.

Conclusions

The VABB procedure is very effective and efficient in removing breast fibroadenoma (benign lesion) and the results are satisfactory. The advantage of this procedure apart from the cosmetic aspect which does not leave any marks is also a high level of safety. From our case, we can take complete removal with a diameter of 6 cm, whereas in the previous literature, it can only remove a mass of 3–4 cm in size.

References

1. Lee M, Soltanian HT. Breast fibroadenomas in adolescents: Current perspectives. *Adolesc Health Med Ther*. 2015;6:159-63. <https://doi.org/10.2147/ahmt.s55833>
2. Tran PV, Le CH, Pham HT, Pham TH. Treatment of fibroadenoma by ultrasound-guided vacuum assisted breast biopsy at ho chi minh city oncology hospital. *World J Surg Surg Res*. 2018;1:1046. PMID:263661092.
3. Park HL, Hong J. Vacuum-assisted breast biopsy for breast cancer. *Gland Surg*. 2014;3(2):120-7. PMID:25083505
4. Abbate F, Bacigalupo L, Latronico A, Trentin C, Penco S, Menna S, *et al*. Ultrasound-guided vacuum assisted breast biopsy in the assessment of C3 breast lesions by ultrasound-guided fine needle aspiration cytology: Results and costs in comparison with surgery. *Breast*. 2009;18(2):73-7. <https://doi.org/10.1016/j.breast.2009.01.001> PMID:19342236
5. Pistolesi CA, Castrignanò A, Ricci F, Meucci R, Croce G, Mondillo M, *et al*. Ultrasound-guided vacuum-assisted biopsy in small breast: A cost-saving solution. *Clin Breast Cancer*. 2019;19(2):e352-7. <https://doi.org/10.1016/j.clbc.2018.12.002> PMID:30733050
6. Eller A, Janka R, Lux M, Saake M, Schulz-Wendtland R, Uder M, *et al*. Stereotactic vacuum-assisted breast biopsy (VABB)-a patients' survey. *Anticancer Res*. 2014;34(7):3831-7. PMID:24982410
7. Polom K, Murawa D, Nowaczyk P, Adamczyk B, Giles E, Fertsch S, *et al*. Vacuum-assisted core-needle biopsy as a diagnostic and therapeutic method in lesions radiologically suspicious of breast fibroadenoma. *Rep Pract Oncol Radiother*. 2010;16(1):32-5. <https://doi.org/10.1016/j.rpor.2010.12.001> PMID:24376952
8. Sun XH, Zhao Y, Zhang B, Yu Y, Cao X. Feasibility study of large breast benign masses excision with ultrasound-guided mammotome VABB system. *Biomed Res*. 2017;28(19):8354-9