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

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Abstract

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-old 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-old 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).
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 (BI-RADS 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.

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
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.
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. Pistolese 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. Połom 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