



Invited Discussion on: The Vacuum-Assisted Breast Biopsy System is an Effective Treatment Strategy for Breast Lumps After Augmentation with Autologous Fat Grafting



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Autologous fat grafting (AFG) has become an extremely popular surgical technique for cosmetic and reconstructive breast surgery [1–3]. For the most part, complications of fat grafting in the breast are few, and the main concern is absorption of the fat that is grafted, resulting in a smaller breast than that seen on the operating room table, potentially leading to serial grafting in later stages. The take of grafted fat is limited by the circulation and surface area of the recipient site. While factors related to the success of fat transfer have been addressed, including fat harvest, processing, and infusion, volume of AFG is limited. There is a tipping point at which greater fat quantity no longer contacts vascularized tissue, and the avascular fat will either absorb, develop into a cystic mass or necrose and become a firm irregular mass of varying size. More often avascular fat will develop into small cysts, and the palpable masses are typically under the skin surface, spherical, and imaged through ultrasound as round discrete cystic masses. Larger areas of fat necrosis may develop, leading to clinical uncertainty and physical symptoms [3]. The presence of a palpable breast mass after AFG may be anxiety-provoking in patients who are concerned about the potentially cancerous nature of these masses, particularly if there is a strong personal or family history of breast cancer. Imaging follows physical examination. The mass may be excised and aspirated or it may be observed if deemed low risk by

ultrasound. Most often the masses are observed. The authors of this paper recommend that masses resulting after AFG be removed through a vacuum-assisted breast biopsy (VABB) system [4].

We have seen vacuum-assisted breast biopsy (VABB) systems used to diagnose breast masses in the workup for breast cancer [5, 6]. These systems are used primarily for tissue biopsy, and en block tissue removal is limited in size. VABB technique limits radiation exposure by partnering with ultrasound imaging. The biopsy process may lead to scarring and/or hematoma formation, sometimes quite significant in nature. Tissue sampling allows for pathology study to determine the nature of the mass. This methodology has been described for plastic surgery application: for axillary breast tissue removal resistant to liposuction, and the authors of this technique paper advocate for its success [7]. Qu et al. promote VABB for removal of masses resulting after AFG, using ultrasound guidance. They claim that the procedure has been risk free except for a small percentage of hematomas. They do not report unsatisfactory scar though the procedure has been performed in Asian women who are more prone to hypertrophic scarring that may be visible and symptomatic. Such scarring was visible in the photographs included in the paper describing removal of axillary breast tissue [7]. Qu et al. believe that mass removal after AFG allows for better cosmetic result and improves accuracy of excision. They fail to mention the typical biopsy size and sizes of biopsy that may be performed; the pathology results of the masses they removed; timing of biopsy; and the nature of scarring with this VABB system. It would be interesting to know whether any neoplastic masses have been removed and what the course of action would be if this did occur.

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In a time when cost-containment and more efficient delivery of healthcare is being encouraged, medical necessity for removal of small, benign-appearing breast masses after a known inciting event, with added expense of this technology, seems dubious. Creating anxiety in a cosmetic or breast cancer patient with recommendation for biopsy also seems avoidable, particularly when the standard treatment is observation and alleviation of anxiety. Furthermore, the VABB sampling device only allows for a limited size biopsy. This technique also requires education about the use of ultrasound and the VABB device, with more complex and expensive technology than the usual basic surgical set. For situations in which there is elevated concern about malignancy on the part of the oncologic surgeon or patient, VABB may be applicable for removal of relatively small masses. For the above reasons, I believe plastic surgeons may not feel compelled to apply this technique without more information and evidence which support the necessity of VABB. I look forward to seeing more information published about this technique in the future.

Compliance with Ethical Standards

Conflict of interest The author declares that she has no conflicts of interest to disclose.

Ethical Approval This article does not contain any studies with human participants or animals performed by the author.

Informed Consent For this type of study, informed consent is not required.

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