



Vacuum Assisted Biopsy (VAB) and Vacuum Assisted Excision (VAE) of Breast Lesions *-by Drs. Bijal Jankharia & Saba Shaikh*

A vacuum-assisted machine (Fig. 1) is a device that has a hollow biopsy needle connected to a vacuum pump, which enables us to take multiple large tissue samples from a single insertion.

Indications:

1. Vacuum-assisted biopsy (VAB)
 - a. Suspicious microcalcifications – grouped, regional or segmental.
 - b. Small masses – not appreciated on ultrasound (USG).
 - c. Architectural distortion – not appreciated on USG.
2. Vacuum-assisted excision (VAE)
 - a. Fibroadenomas less than 3cms in size.
 - b. Alleviation of patient anxiety of breast lump.
Cosmetic – scarless removal of benign breast lump, especially in young women.
 - c. Increase in size or pain of an existing fibroadenoma.

VAB (Fig. 2):

VAB is a minimally invasive procedure to obtain multiple large tissue samples from breast lesions such as microcalcifications and small masses or architectural distortion, not well visualized on ultrasound, done with the help of mammography-stereotactic guidance.

Multiple samples are taken through a single puncture of the vacuum needle. After adequate



Fig. 1: Image of the VAB machine.

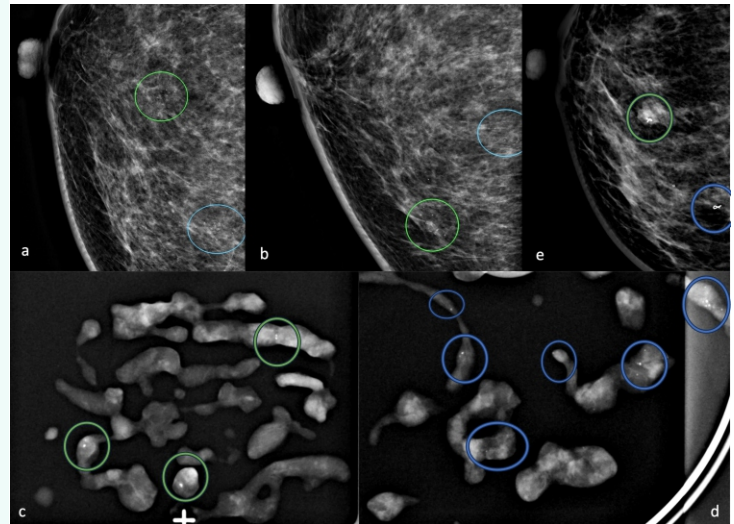
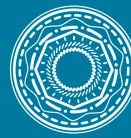


Fig. 2: (a-d): VAB of microcalcifications. CC (a) and ML (b) mammogram images show two groups of amorphous and pleomorphic microcalcifications (circles). Specimen radiograph (c&d) shows successful removal of the microcalcifications. Image (e) shows tissue marker clips (circles) in both lesions. These were benign on histopathology.



At a glance:

- ◆ VAB and VAE are minimally invasive OPD procedures that enhance breast care.
- ◆ VAB allows the diagnosis of early cancer from microcalcifications that cannot be seen on USG and cannot be palpated.
- ◆ VAE is an alternate to surgery for benign breast lesions, especially to avoid surgical scars.

samples are taken, a tissue marker clip may be inserted (Fig. 2e) if required.

Following the procedure, a specimen radiograph (Figs. 2c & 2d) is performed to confirm microcalcifications in the cores.

VAE (Fig. 3):

VAE is a safe technology to remove breast lumps without a scar. It is commonly used in women of all ages, especially young women with breast lumps who do not want to undergo surgery e.g. fibroadenomas up to 3cms in size.

With the help of ultrasound-guidance, under local anesthesia, the vacuum assisted device is inserted into the lesion, and through a single insertion, the entire fibroadenoma can be completely removed with multiple samples. It is a popular alternative to surgery.

Both procedures, VAB and VAE, are done on an OPD basis, taking between 20-60 minutes with minimal complications, such as bleeding and bruising, which are also rare.

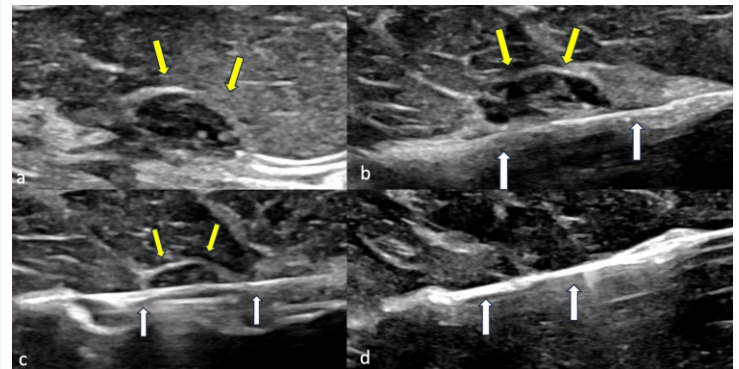


Fig. 3: (a-d): VAE of fibroadenoma. USG of the breast (a) shows a fibroadenoma (arrows) with a VAB device (white arrows) inserted inferior to the lesion (b). The next image (c) shows removal of half the lesion, while the final USG image (d) shows complete removal.

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