East Lancashire Hospitals NHS
NHS Trust

Radiographer Led Vacuum Assisted Biopsy Service at ELHT Breast Unit

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Content

- What is VAB
- Background
- Histological grading of breast lesions
- Indications for VAB
- Setting up a VAB service
- Impact of service

What is VAB?

Vacuum assisted biopsy (VAB) is an alternative to standard core biopsy for the definitive diagnosis of suspicious breast lesions.

In the majority of breast units standard 14G stereotactic guided core biopsy has been the remit of the Advanced Practitioner (AP) Radiographer for many years.

The introduction of VAB has in many units had become the sole responsibility of the Radiologist with little input from AP Radiographers. This practice is now beginning to change.

Within ELHT breast unit the VAB service is led and managed by a team of AP Radiographers

Background

The technique of vacuum assisted biopsy (VAB) was developed in the late 1990's and can be used in conjunction with stereotactic, ultrasound and MRI image guidance.

This sampling method allows for increased tissue retrieval and therefore increased pre operative diagnostic accuracy in the management of breast lesions.

Today the optimal management of screen detected breast cancer requires pre operative assessment with image guided needle biopsy to obtain a non-operative diagnosis in up to 95% of cases,thereby avoiding the need for surgical excision (NHSBSP 50 2001)

VAB endorsed by NHSBSP as an alternative to surgical excision biopsy in cases which are classified as requiring second line biopsy or as a therapeutic mechanism to remove lesions of uncertain malignant potential classified as B3. (NHSBSP 49 2010)

Histological Grading of Breast Lesions

The European Guidelines for quality assurance in breast cancer screening and Diagnosis (2008) indicate that all breast biopsies should be classified under one the following categories:

- B1, normal
- B2, benign
- B3, lesion of uncertain malignant potential
- B4, suspicious for malignancy
- B5, malignant.

The B3 subgroup consists of lesions that, although benign on histology, are known to either show heterogeneity or have an increased risk of associated malignancy. This category includes:

- papillary lesions,
- radial scars,
- complex sclerosing lesions,
- lobular intraepithelial neoplasia
- atypical epithelial proliferation of ductal type,
- phyllodes tumours.

Indications and Advantages of VAB

Indications

VAB is ideally the preferred method for sampling in the following circumstances:

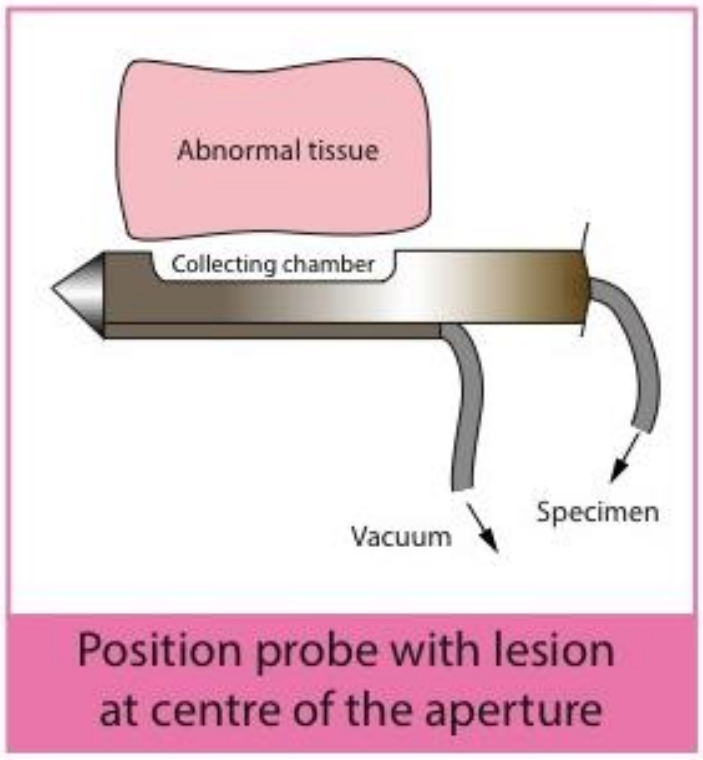
- very small clusters of microcalcification that are likely to be difficult to sample (< 5 mm)
- failed conventional core biopsy
- B4 result after conventional core biopsy
- therapeutic removal of B3 lesions

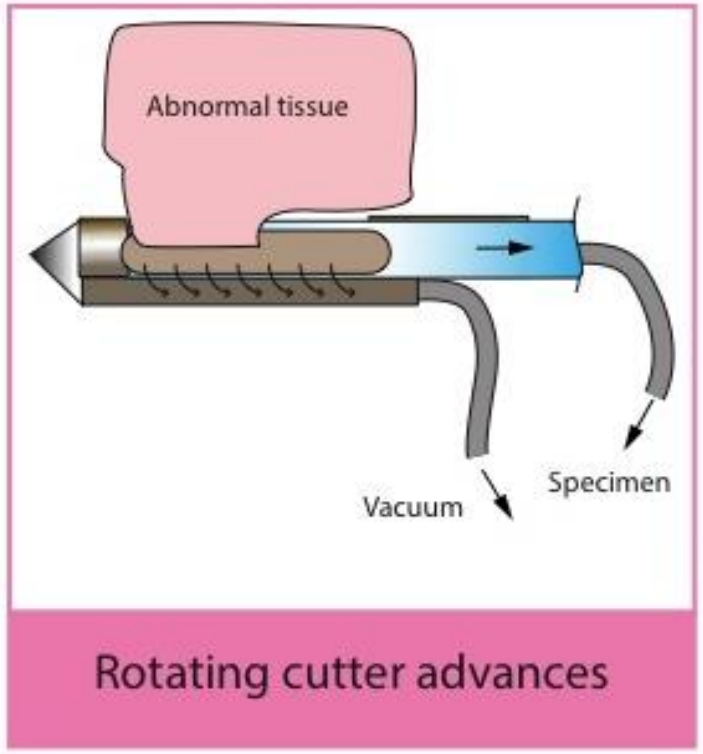
Advantages

- More accurate diagnosis therefore, reduces unnecessary operations
- Removal of B3 lesions without need for surgery
- Well tolerated by the patient

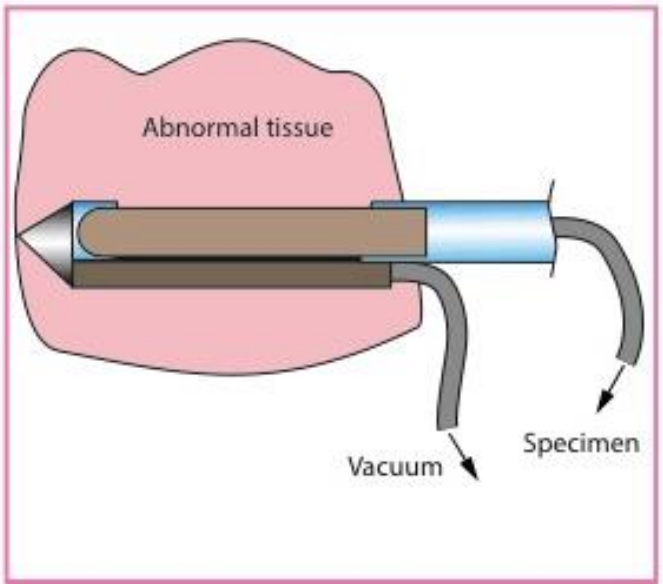
Equipment

Principles of VAB

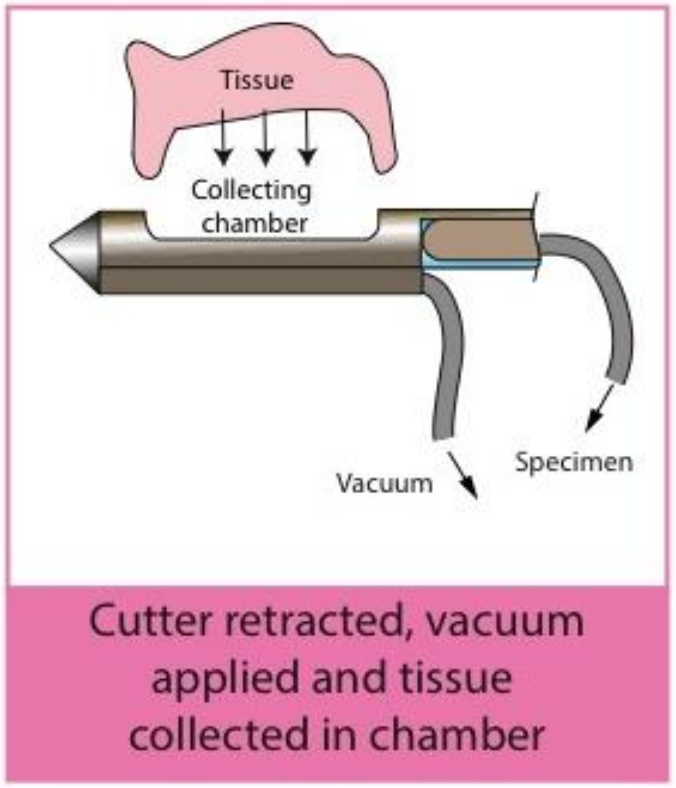




Principles of VAB



Collection chamber closed



Cutter retracted, vacuum applied and tissue collected in chamber

Setting Up a Radiographer Led Service

Pre requisite training for Advanced Partitioners:

- All completed MSc Module in Breast Interventional Procedures at University of Salford
- Maguire Advanced Communication Skills course
- Clinical Breast Examination course
- NIHR Good Clinical Practice
- All complete biannual competence audit monitored by Consultant Radiographer

Team work:

- Applications training (Radiographers and AP's)
- Dressings (Assistants)
- Patient selection (Breast Steering Group)
- Management Pathway (BCN and AP's)
- Patient letters/ advice sheets (AP's)
- Dedicated sessions (AP/manager)
- Practice, practice, practice (phantom)

Audit

Outcomes to June 2016

Service began April 2012

Now have 6 Advanced Practitioners undertaking VABs

Performed 211, 9G VAB procedures

- 36 repeat interventions for non concordant imaging
- 174 VAB excisions : discharged no surgical intervention
- 41 cancers diagnosed: all patients referred for definitive surgery.

Assessing Quality

In order to evaluate the patient experience undergoing VAB a patient satisfaction survey was undertaken which aimed to:

- evaluate patient tolerance following VAB
- compare experience against previous stereo core biopsy
- evaluate patient understanding of the procedure
- monitor infection and post procedure bruising

Questionnaire was given following the VAB and collected by BCN at the results appointment.

Survey Results

Result indicated:

•overall, a very positive response with high patient satisfaction

•both pre and post care information are perceived to be of a high standard

•tolerance to the procedure in respect of both pain and bruising appears within acceptable limits

•the introduction of the ‘Radiographer led’ VAB service from the patient perspective appears successful.

Impact on Advanced Practitioners

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In Conclusion

The Radiographer Led VAB service has proved to a successful addition to the diagnostic management of indeterminate breast lesions.

It has dramatically reduced the number of diagnostic excision open biopsies since 2012

Reduced cost in comparison to open biopsy

Well tolerated by patients

Introduced a further element of skill mix for both Advanced Practitioners and Radiographers.

References

Guidelines for Non-operative Diagnostic Procedures and Reporting in Breast Cancer Screening. NHS Cancer Screening Programmes, 2001 (NHSBSP Publication No 50).

NHSBSP 2010, Clinical Guidelines for Breast Cancer Screening Assessment No. 49

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