UPGRADE RATES OF B3 AND B5a DIAGNOSES ON DIAGNOSTIC NEEDLE CORE BIOPSY AND VACUUM ASSISTED BIOPSIES AT OUR UNIT

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INTRODUCTION

Needle core biopsy (NCB) has historically been the mainstay for histological diagnosis of breast abnormalities, however the use of vacuum assisted procedures is increasing, including at our unit. Anecdotally there has been a rising diagnosis rate of lesions of uncertain malignant potential (B3 lesions). This is replicated widely with national studies showing B3 rates ranging between 2.3 – 7.9% on NCB[1]. Recently published guidelines on the management of B3 lesions advises multi-disciplinary team (MDT) discussion for all B3 diagnoses with subsequent vacuum assisted excision (VAE) for secondary assessment to ensure thorough sampling[2]. The NHS BSP and Association of Breast Surgery audit 2016 – 2017 asked units to review their policy on the management of B3 lesions to minimise the number of these lesions undergoing surgery[3].

We have reviewed our unit's vacuum assisted procedures with a specific focus on the upgrade rate of B3 lesions on NCB versus vacuum procedures and the upgrade rate of B5a to B5b lesions on radiological and surgical histology.

METHODOLOGY

- Retrospective data analysis was performed on all patient having undergone a vacuum assisted procedure between July 2015 and June 2018. Screening and symptomatic presentations were included.
- Data was collected on VAB / VAE with the corresponding histological result and B grade for each. If the patient had had prior NCB or proceeded to surgery this histological information was included.
- Only patients with a B3 or B5a result were analysed.
- An upgrade rate at each stage was calculated.
- Cases were excluded from the upgrade count if the upgrade status had been already established on a concurrent biopsy / procedure or if the patient declined the recommended treatment option.

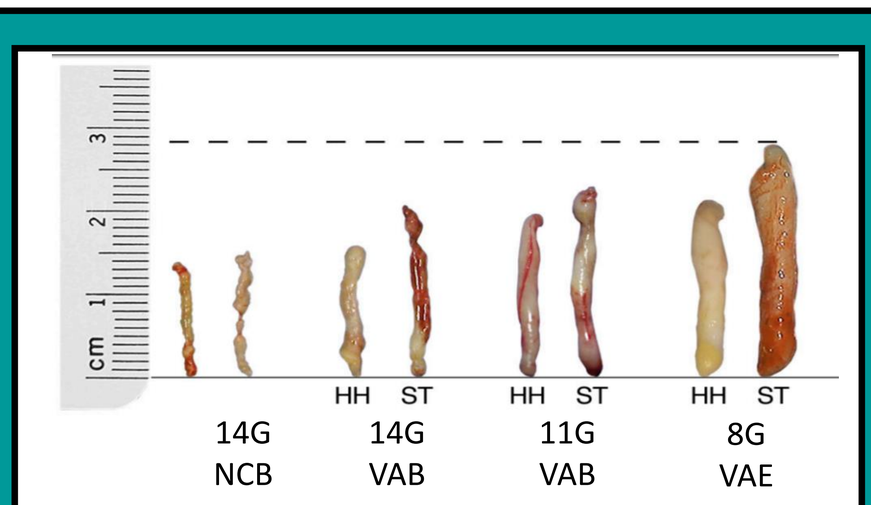
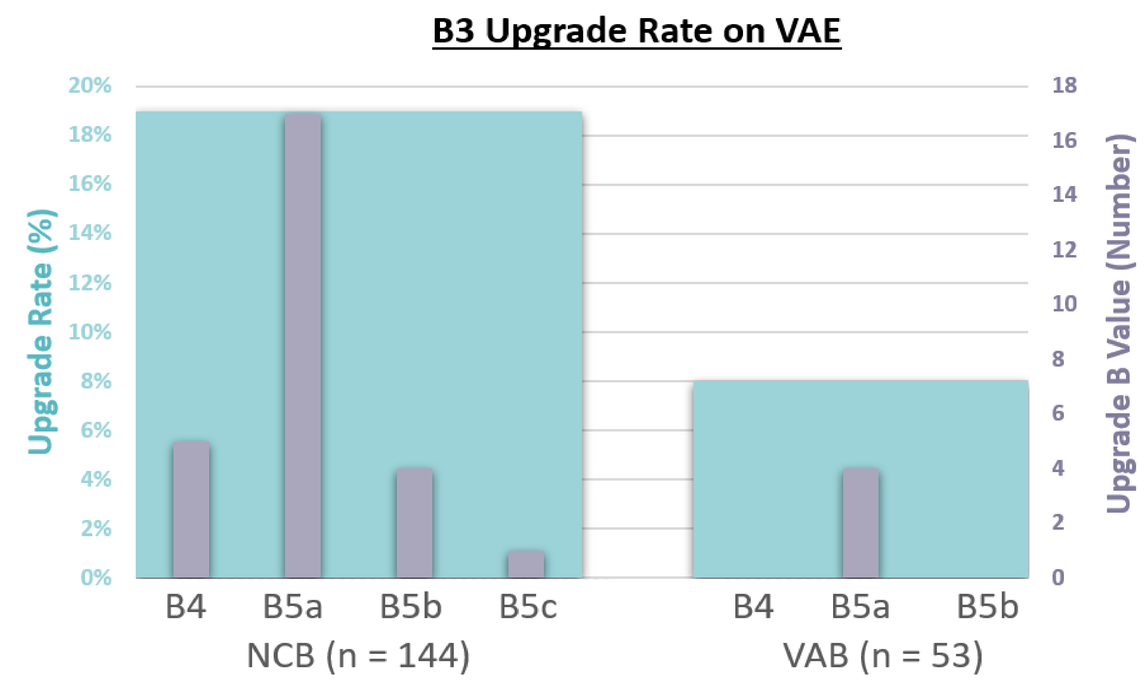


Image 1: NCB and VAB core samples showing hand held and stereotactic guided acquisitions. Image courtesy of Mammotome

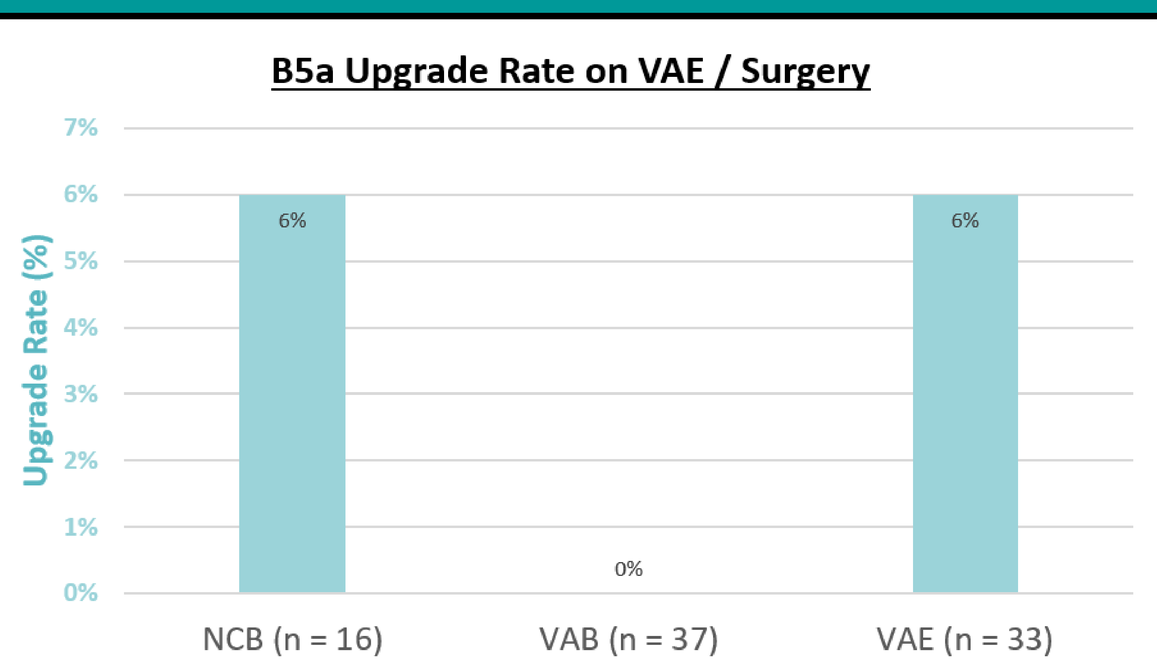
RESULTS

From July 2016 – June 2018 inclusive our unit performed 3749 needle core biopsies and 630 vacuum assisted procedures in total.

At our unit a standard NCB will consist of 14G cores, a minimum of 5 obtained for calcification. If the region of calcification exceeds 30mm an initial vacuum assisted biopsy (VAB) will be performed, consisting of 6 x 10G cores. Secondary assessment with VAE following either procedure consists of 12 x 8G cores.



Graph 1: NCB n = 144. 27 were upgraded, upgrade rate 19%.
VAB n = 53. 4 were upgraded, upgrade rate of 8%.



Graph 2: NCB n = 16. 1 was upgraded, upgrade rate 6%.
VAB n = 37. 0 were upgraded. VAE n = 33. 2 were upgraded, upgrade rate 6%.

DISCUSSION

We show a higher upgrade rate when B3 lesions are diagnosed on NCB (19%) versus first line VAB (8%). Most of these were upgraded to B5a. The NHS BSP highlights the importance of minimising the number of visits to the assessment clinic due to the significant impact on patient anxiety[3]. We are therefore now moving to offering first line VAB in the assessment clinic .

The NHS BSP 2016-2017 audit showed B5a lesions diagnosed on NCB had a 12% upgrade rate to B5b at surgery. Our results are within this value at 6%.

We show that no VABs were upgraded from B5a at surgery, but 2 VAEs were still upgraded from in-situ to invasive disease. This therefore shows no benefit of performing second line vacuum procedure following a VAB B5a result.

Ongoing re-audit is required as per the NHS BSP audit report, which our unit will continue to undertake.

Retrospective review of the two upgraded VAE cases reveals both had radiologically small volume disease. Patient 1 had 7 x 4mm microcalcification, which on surgical histology showed a 4mm invasive focus with surrounding DCIS. Patient 2 had 5 x 5mm microcalcification, which on surgery showed a larger area of invasive disease at 6.5mm along with DCIS.

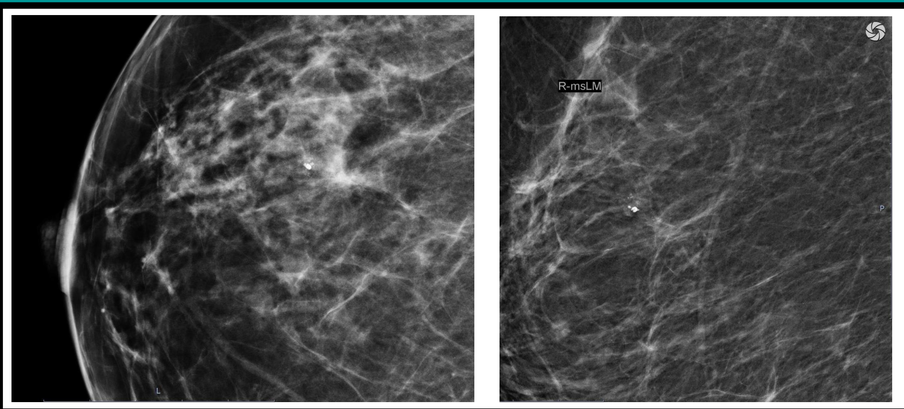


Image 2: CC and Mag Lateral views of Patient 1 showing 7 x 4mm microcalcification.

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3. NHS breast screening programme and Association of Breast Surgery. An audit of screen detected breast cancers for the year of screening April 2016 to March 2017. Public Health England leads the NHS Screening Programme