Use of Fine Needle Aspiration in BreastScreen Australia Services

Version Control	
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Background

The NQMC has sought to transition the BSA program away from FNA by making clear to Services its expectations for reducing reliance on FNA due to its higher risk of false positives.

Nevertheless, a small number of BSA Services retain a preference for FNA over cores. The NQMC notes persistent problems with false positive cancer diagnoses under FNA biopsies at some of these services and is concerned by the attendant potential for adverse patient outcomes.

Given that these false positive diagnoses have originated in centres with experienced cytopathologists, it is considered that this reflects the inherent limitations of the FNA technique.

The CAC discussed the limited place of FNA in BreastScreen Australia Services, noting that a histological diagnosis is the gold standard.

FNA, although providing a minimally invasive and rapid diagnosis of the sampled tissue, does not demonstrate its histological architecture.

There is wide variation in FNA diagnostic accuracy, reflecting variation in clinical usage of the technique. In contrast to FNA biopsies, needle core biopsies can distinguish in situ from invasive cancer, LCIS from DCIS, provide definitive evaluation of the presence and histological location of microcalcifications in the tissue samples and their relationship to the surrounding pathology, and determine tumour grade and subtype. Increasingly the pre-operative biomarker profile of invasive cancers, based on needle core biopsies, is required for treatment planning, including the use of neoadjuvant therapies.

Even for benign lesions, needle core biopsies permit accurate sub-classification and are associated with a substantial reduction in the proportion of lesions classified as atypical or suspicious. The use of needle core biopsies leads to fewer needle biopsy procedures, greater diagnostic accuracy, fewer diagnostic open biopsies, a dramatic reduction in down graded diagnoses of malignancy and improved pre-operative cancer detection rates.

Needle core biopsies have largely replaced cytology in the assessment of breast lesions, particularly for screen detected lesions. The UK NHS program's 2016 Clinical Guidelines for Assessment state: "*If a service has access to high quality cytology with immediate reporting, then fine needle aspiration cytology (FNAC) may be used in addition to core biopsy, but not instead of it. In exceptional cases FNAC may be used alone if core biopsy is not possible.*"

BSA accredited services are based principally on needle core biopsy evaluation. FNAs are reserved mainly for cysts and lymph nodes. However, on occasion services that would not ordinarily use FNA for lesions of a particular type elect to use FNA for additional ipsilateral lesions when malignancy has been proven in at least one lesion in the same breast. This practice is strongly discouraged. Multifocality is an indication for more extensive surgery, including

mastectomy, and should be proven definitively with core biopsy of more than one lesion. The presumption of multifocality is an insufficient basis for radical surgery or client advice. In evaluating multifocal lesions, it is essential for the assessment tests to establish the malignant nature of each focus, or at least the two furthest foci to the same high standard of care provided by needle core biopsies, so as to justify definitive cancer surgery, including mastectomy.

Literature reviewed included medical literature in PubMED.

The CAC reviewed guidelines from NHS BSP UK Clinical Guidance for Breast Cancer Screening Assessment, November 2016.

CAC decision/recommendation

Women in the BreastScreen Australia program need to have accurate and up-to-date information available, to make decisions on their treatment options.

The use of FNA in the screening setting should be limited to cysts, lymph nodes and the rare situations where core biopsy is not possible.

Where possible core biopsy, including vacuum assisted biopsy, should be the procedure of choice.

For multifocal lesions, if the lesions are in more than one quadrant, at least two quadrants should have a core biopsy.

This advice is clinical guidance for the BreastScreen Australia Program for consideration and suggested implementation within each jurisdiction.