

FNAC: An Approach to Diagnose Breast Lump

Breast disease is very common and is usually benign. It evokes considerable anxiety and fear to the patient as well as to her relatives because a small percentage is malignant. Breast cancer is the most common cancer in women and is the leading cause of death in middle aged women. The incidence of cancer breast in Bangladesh is no less than that of developed countries and the sad fact is that many of our patients present very late mainly because of illiteracy and social taboos.

The most common sign and symptom of breast disease is a palpable mass. The cause of a breast lump depends on the age of the patient. Young women commonly present with fibro-adenomas while middle aged women (30-50 years of age) usually present with breast cysts. In post-menopausal women, all new lumps are due to breast cancer until proved otherwise.

All patients presenting with a breast lump should have clinical, radiological and pathological assessment (known as triple assessment) carried out during their first visit to the clinic. Clinical assessment consists of history and physical examination. Radiological assessment encompasses ultrasound in patients under 35 years of age and mammography in patients over 35 years. Ultrasound is particularly useful in assessing whether a lump is solid or cystic. With mammography, benign lumps are usually very well defined and may have a surrounding halo, whereas breast cancers are commonly associated with speculation, architectural distortion or malignant micro-calcification. Pathological assessment consists of fine needle aspiration cytology (FNAC) in majority of cases and trucut biopsy in few cases when cytology is inadequate or unhelpful.

Fine needle aspiration allows cells to be taken from the lump. A fine needle attached to a syringe is inserted into the lump and cells are withdrawn by making several passes through the lump with negative pressure. Once cells are withdrawn from a breast lump they can be either fixed or air-dried on a slide immediately or drawn into a transport medium and sent to the laboratory, where they are centrifuged and plated on a glass slide, fixed and stained with either haematoxyline and eosin or papanicolaou stain. The cells are classified as follows : C1, inadequate; C2, normal/benign; C3, atypia probably benign; C4, atypia probably malignant; and C5, malignant. A C5 diagnosis on cytology that is congruous with the clinical and radiological features is sufficient to allow the surgeon carry out a definitive surgical procedure for breast cancer.

Fine needle aspiration cytology (FNAC) can provide a morphological diagnosis of palpable breast masses in an accurate, efficient, inexpensive and safe manner. It has excellent patient compliance and can be readily repeated. It is cheap and can be easily performed in an outdoor setting where the single most important factor is a competent pathologist.

Farooque et al carried out a prospective study of breast lump by FNAC at Bangabandhu Sheikh Mujib Medical University on 275 patients to evaluate the nature of disease pattern (current issue: page-3). Their results were in conformity with various other studies carried out all over the world.

A striking feature revealed in their study is the accuracy of results in context of 32 cases of malignant lumps proven on histological examination. Of the 32 patients 31 (96.87%) were correctly diagnosed by fine needle aspiration cytology. Thirty (93.75%) were duct cell carcinoma and one (3.12%) was medullary carcinoma. Another case diagnosed as duct cell carcinoma on cytology was reported as fibrocystic change on histopathological examination. So it can be inferred that FNAC is a reliable diagnostic tool for the morphological diagnosis of a breast lump which should be readily available at various centres all over the country. It will go a long way in the early diagnosis of breast cancer which if treated early carries a very favorable prognosis. It will also help in alleviating the fear and anxiety associated with breast disease in the vast majority of cases with benign lumps.

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