

# Therapeutic Dilemmas of Breast Lumps

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## ABSTRACT

Benign breast disease is now regarded as Aberrations of Normal development and Involution (ANDI). Breast cancer is taking over the place of Cervical Cancers in India. Awareness is on the rise and more women are now coming forward for examination. 1 out of 10 Breast lumps are proved malignant, but the remaining 9 are developing cancer phobic and undergo a lot of mental tension and pose a therapeutic challenge not only to the physician but also a diagnostic dilemma. Benign lumps on FNAC are becoming malignant on Lumpectomy and vice versa. This communicating article is to bring out the confusions and help the family physicians to take the right therapeutic decision

**KEY WORDS:** Breast lumps, fibroadenoma

## INTRODUCTION

Breast lumps are a therapeutic challenge to the surgeon, physician, gynaecologist and the oncologist, because: There is a poor correlation between clinical, pathological and radiological features. Benign breast disorders enclose a wide spectrum. Breast is a dynamic structure with cyclical variations superimposed on development and involution throughout women's lifestyle. Breast lumps are basically of two types: Proliferative, as fibrocystic Breast disease, and Non proliferative, as Hyperplasia with atypia.

Fibro adenomas of the breast are lumps composed of fibrous and glandular tissue. They are easy to move, with clearly defined edges.<sup>(1)(2)</sup> Fibro adenomas are sometimes called breast mice or a breast mouse owing to their high mobility in the breast.<sup>(3)</sup> Fibro adenomas are painless, firm, solitary, mobile, slowly growing lump in the breast of a woman of childbearing years.<sup>(2)(4)(5)</sup> diagnosed through clinical examination, ultrasound or mammography, and often a needle biopsy sample of the lump. They arise in the terminal duct lobular unit of the breast. They are the most common breast tumor in adolescent women. They also occur in a small number of post-menopausal women. Their incidence declines with increasing age, and, in general, they appear before the age of thirty years. Fibro adenomas are partially hormone-dependent and frequently regress after menopause. They are hypo vascular compared to typical (especially malignant) neoplasms.<sup>(2)(7)(5)</sup> Approximately ninety percent of fibro adenomas are less than three centimetres in diameter. The vast majority of the remaining ten percent that are four centimetres or larger occur mostly in women under twenty years of age.

Proliferative Breast Mass	Non Proliferative Breast Mass
Has an increased risk of malignancy by 1.5-2% if there is no family history of Breast cancer and 11% if there is a positive family history. Includes fibrocystic disease	Is not associated with risk in Breast cancer. Includes hyperplasia with atypia, Papilloma, sclerosing adenosis and lobular carcinoma in situ.

## TREATMENT

1. Most fibro adenomas are left in situ and monitored by a doctor.
2. Conservative therapy with progesterone and Danazol for women under the age of 35.
3. Giant Fibro adenomas (4cm and above), Phyllodes tumors are treated by surgical excision.<sup>(7)(10)</sup>
4. Some opt for clinical follow-up to serially observe the lesion over time using clinical examination and mammography to determine the rate of growth, if any, of the lesion. A growth rate of less than sixteen percent per month in women under fifty years of age, and a growth rate of less than thirteen percent per month in women over fifty years of age have been published as safe growth rates for continued non-operative treatment and clinical observation.<sup>(11)</sup>
5. Some fibro adenomas respond to treatment with ormeloxifene.<sup>(12)</sup>

6. There are also natural treatments being touted to diminish fibro adenomas, such as Fibrosolve, but no definite studies have been made as to prove their effectiveness.

7. Cryoablation Treatment- FDA has approved Cryoablation .The procedure can be performed in an office setting with local anesthesia only, and leaves substantially less scarring than open surgical procedures <sup>(14)</sup>. The American Society of Breast Surgeons recommends the following criteria to establish a patient as a candidate for Cryoablation of a fibro adenoma:<sup>(13)</sup>. The lesion must be sonographically visible. The diagnosis of fibro adenoma must be confirmed histologically. Lesions should be less than 4 cm in diameter. The hallmark of these lumps is that the pain or lump appears just before menstrual periods and disappears afterwards.

### FIBROADENOSIS

Fibroadenosis also known by other names such as fibrocystic disease of breast or mammary dysplasia or chronic cystic mastitis. A biopsy of these lumps usually reveals fibrosis, adenosis, epitheliosis and cyst formation. It usually presents in the reproductive age of a women – 25 to 40 years. The usual common presentation is as a breast lump or pain in the breast (mastalgia). The pain or lump may occur just before the menstrual periods and then disappear. Sometimes it is not so much lump but an indurations or nodularity of the breast. This cyclical presentation is due to the influence of the sex hormones on the breast tissue of the women. Malignant potential of Fibroadenosis is non existent except for a subtype of Fibroadenosis called – Atypical ductal or lobular epithelial hyperplasia (ADH or ALH) This type is associated with four times increased risk of malignancy in compared to the general population. This risk increases eight fold if there is positive family history of breast cancer. Regular mammogram, ultrasound and sometimes Fine Needle Aspiration Cytology (FNAC) or trucut biopsy maybe required.

#### Treatment of Cyclical Mastalgia includes:

- Reassurance
- Diuretics, mainly for a placebo effect
- Administration of oral contraceptives
- Tamoxifen 10mg daily for 5 years as it reduces the risk lumps also go up. They generally disappear after menopause.
- Danazol acts as an antigonadotrohin by its action on pituitary and ovarian axis at a dose of 200-400mg daily by depressing production of FSH, LH and ovarian function.
- Bromocriptine is useful if the prolactin levels are high.
- Evening Primrose oil with linolenic acids is useful when there is secondary deficiency of essential fatty acids.

- Severe mastalgia unresponsive to all treatment needs consideration of demand mastectomy, but needs to be avoided. These women are candidates for regular screening for breast cancer.

### BREAST CYSTS

Cysts are fluid filled sacs that maybe single or multiple and maybe present in both the breasts. They feel like soft grapes or small water-filled balloon and are often seen on mammograms and if large maybe palpable as distinct soft lumps on self examination by more than 50%.

They usually presents in the perimenopausal age group i.e. 35 to 50 year's age group and are more common in woman on hormone replacement therapy (HRT). The cause of these cysts is due to degeneration of the fibro glandular tissue of the breast in woman who have crossed their reproductive age - after the age of 35 years. The degeneration causes empty spaces which forms cysts when filled with fluid. An 'ultrasound scan' helps in making the diagnosis and can easily differentiate between a solid or cystic lump. Under its guidance a 23 gauge fine needle can be used to aspirate these cysts and the aspirate can then be sent to the pathologists to look for malignant cells. The cyst can be considered benign if the following criterion is met -

The aspirate is clear or milky, and not bloody

2) The lump disappears after aspiration.

3) The cytology of the aspirate is negative for malignant cells.

If the above criteria are not satisfied, a surgical excision of the cyst is advised to rule out malignancy. In 20% of the cases the cysts recur and may require a repeat aspiration. If the same cyst is aspirated more than 3 to 4 times surgical excision is advised.

### BREAST ABSCESS AND MASTITIS

A lump that is painful and presenting in lactating women is generally an abscess. The actual lump of the abscess is preceded by redness and inflammation of the skin and the tissue over the area of the breast and is called mastitis. The lumps of abscess are usually tender, smooth, round and sometimes movable. An abscess is nothing but a pus-filled space that forms under the skin due to bacterial infection. The infection results in activation of your immune system and the arrival of white blood cells to fight and kill the bacteria. Breast abscess occurs in the first few weeks after starting breast feeding due the entry of the Staphylococcus Aureus, a bacterial organism, through the cracked nipple and in a blocked duct. It spreads rapidly due to milk acting as a good culture medium for the bacteria to proliferate. The bacterium soon causes tissue damage; these along with the white cells that fight the bacteria lead to suppuration and

abscess formation. In the early stage of mastitis abscess formation can be prevented by taking antibiotics such as cephalosporin's or erythromycin. Once an abscess is formed the only treatment is surgical drainage under anaesthesia. Sometimes drainage with a needle under ultrasound guidance, along with antibiotics and suppression of lactation by hormones, can settle the abscess. These conditions generally affect women between the ages of 18 to 50 years and are uncommon in non-lactating women. Breast feeding prevents cancer formation and the longer a woman breast feeds the lower the risks.

**Malignancy and Breast abscess** - Breast cancer in lactating women is rare but sometimes it may appear as red breast with no fever. If there are repeated mastitis episodes in the same area there may be an underlying tumour that has been missed. Occasionally Paget's disease of the nipple (a cancerous condition) can be mistaken for eczema or a fungal infection.

Preventing Breast abscess - All women who breast feed should learn to take care of their nipples - as prevention is the most effective strategy against breast abscess

**Hyperplasia** is cellular proliferation of ducts. Its synonymous with papillomatosis and Epitheliosis. Atypia occurs when hyper plastic cells exhibit bizarre cells or nuclei. Adenosis occurs when there is increase in the number of glandular elements.

## MANAGEMENT OF NIPPLE DISCHARGE

If the Nipple discharge is associated with a lump, then management is based on lump management. If there is no lump, and there is only discharge then it depends on the nature of discharge.

- 1) Galatorrhoea.If- excludes mechanical stimulation and use of drugs to promote galatorrhoea.If prolactin levels are normal then only reassurance is needed.
- 2) Discharge from only one duct and not blood stained-advice mammography, michrodochectomy or major duct excision depending on age.
- 3) Blood stained discharge from a single duct-mammograph, michrodochectomy or duct excision.
- 4) Multifocal and non blood stained discharge from a single duct-mammography, reassurance, major duct excision.
- 5) Multifocal and blood stained discharge- mammography and major duct excision.

## BREAST CACNER

Breast cancer that affects the breasts or mammary glands. It is the second most popular cancer after lung cancer and is

the fifth most common cause of cancer deaths world -wide. On a global scale breast cancer is the most common cancer amongst women. According to estimates, in the 2004 alone breast cancer caused 519,000 deaths worldwide. Contrary to popular belief that it is a woman's affliction, it can affect both men and women. Breast cancer incidence varies vastly worldwide. It is significantly higher in the developed countries of the world in comparison to the less-developed ones .Breast cancer incidence also increases with age; hence the older the woman, the more aggressive the evaluation techniques employed. Nevertheless, younger women with breast lumps are at a far greater risk for breast cancer in comparison to asymptomatic women of the same age group, and to older women.

Highest Risk Groups for breast cancer include older patients, those who have two first-degree relatives with early onset breast cancer and those who already had breast cancer. A combination of environmental factors and genes are responsible for this cancer. A mutation in the tumour suppressor genes BRCA1 and BRCA2 are implicated in this cancer. Obesity, alcoholism, nulliparity and high fat diet are some of the environmental factors that can increase the risk for breast cancer

Breast lumps need to be taken seriously because the vast majority of breast cancers are detected by the patients themselves, rather than by the doctors, through self examination. If discovered early, smaller lumps are likely to have better prognosis in comparison to the larger ones. Non palpable lesions that may be malignant can also be detected during a routine mammography.

Breast cancer is one of the oldest cancers known to man. However, it is only with the modern understanding of the systemic nature disease that effective treatments began to evolve.

Staging is the most decisive factor with regard to prognosis, as it takes into consideration the size of the tumour, lymph node status, local involvement and the metastatic nature of the disease. The greater the stage at diagnosis, the poorer is the prognosis. Staging also helps to decide on the mode of treatment and the level of aggression required. When the cancer is confined to the breast and the nearby lymph nodes it is considered as early stage breast cancer, which has a good prognosis. If it has spread to other body parts then it is late or advanced stage cancer, with poor prognosis. Younger women tend to have poorer prognosis in comparison to post-menopausal women as they are usually at a far advanced stage when diagnosed.

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