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BREAST MASSES
Diagnosis and Surgical Management

ESSAY

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**TO
MY
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INTRODUCTION AND AIM OF THE WORK

INTRODUCTION

The chief complaint and the most common clinical presentation of the breast lesions is a mass. The carcinoma of the breast comes as the second common cause of the five lesions which produce a breast mass. They are namely, fibrocystic disease, cancer, fibroadenoma, intraductal papilloma and duct ectasia.

One of every 11 women, or about 9%, will develop breast cancer during her normal life expectancy, this is not a chance event that occurs randomly throughout the population. There is a group of patients who are at increased risk of developing breast cancer.

Breast cancer does not seem to be due to a single factor but to a constellation of risk factors, including genetic predisposition, adverse hormonal milieu, immunologic incompetence, carcinogen exposure and adverse personal and demographic factors.

Beyond the obvious risk indicators, such as lump or discharge, certain factors are of major importance, namely, sex, age, family history of breast cancer, previous benign disease, precancerous mastopathy, previous cancer in one breast and adverse

hormonal milieu as related to parity.

From the hormones which help growth of the mammary gland, estrogen hormone is the most important one in the epidemiology of breast cancer, probably acting as powerful potentiator rather than as a true carcinogen. There seem to be two main types of breast cancer with different age peaks and hormone relationships. The first type occurs in the premenopausal woman, has an age peak of 45 to 49 years and seem to be related to the secretion of estradiol and estrone by the ovaries. The second type occurs in the post-menopausal woman, has its age peak at 65, and seems to be related to adrenal function which its secretions as a precursor of estrone and pass to circulation to produce its effects.

There is a body of evidence to suggest that hypothyroidism is conducive to the development and progress of mammary carcinoma. The incidence of breast cancer increases with the length of time thyroid supplements are given and it is highest in nulliparous women.

The role of prolactin, if any, in human breast cancer is poorly understood.

According to the use of contraceptive pills and its relation to breast cancer, there might be subgroups in the population who could be adversely affected. In the subgroup of premenopausal women under 40 years of age and had a family history of breast cancer and takes the pills for 1 or more years, the incidence of cancer breast increases of three-fold.

The incidence of breast cancer also increases in the subgroup of nulliparous menopausal women who take exogenous estrogens for replacement therapy. On the other hand, menopausal women with early first parity seem to have a decreased incidence of cancer breast with exogenous estrogen administrations. Thus the reason that exogenous estrogen administration does not seem to influence breast cancer incidence in the population as a whole may be related to that pills increases the incidence in some subgroups while it decreases in others resulting in a relatively balanced incidence.

It is of paramount importance to define patients at high risk of developing breast cancer so that all diagnostic modalities can be directed toward them. Screening of these patients are of very importance

and essential.

Periodic examination of the breast can be done by the patient through breast self-examination after the days of menstruation end each month. 85% to 90% of breast lesions are discovered by the patients themselves. It is to be done carefully by a physician annually for the early detection and diagnosis of breast cancer in the early stage and offers a good time of surgical approach in which less morbidity and cure rates are high.

Truely, early diagnosis would be the detection of breast cancers in a preclinical stage.

Breast x-ray examinations (mammography and xerography) can detect some breast cancers in the preclinical stage 1 to 2 years before they reach the clinically palpable size of 1 cm. However, there is a false negative results of approximately 10% in diagnosing breast cancer depending on mammography alone.

Thermography although non invasive and therefore safe can not diagnose any substantial number of preclinical cancers.

Depending on clinical examination alone, only about 80% of breast cancers is discovered with high positive false results.

For the accurate diagnosis and confirmation that the lesion is benign or malignant a surgical biopsy and histologic examination must be performed.

Before any definitive treatment is planned certain laboratory and physical examination have become routine and generally accepted. A thorough history and a complete physical examination must accompany direct evaluation of the patient's specific complaints. A strong family history of breast cancer should alert one to the relatively high incidence of bilaterality. The patient ability to tolerate anaesthesia and surgery must be evaluated.

A battery of laboratory tests must become routine including electrocardiogram, complete blood count, postero-anterior and lateral chest radiography, blood chemistry and urine analysis. Abnormal laboratory findings may reflect the presence of metastatic breast cancer. Pulmonary opacifications may be related to metastases, tomogram of lungs verifies the condition when multiple nodules are noted bilaterally.

Abnormal blood chemistry may indicate metastases.

Elevated serum calcium levels may result from bone destruction by metastatic breast cancer. An elevated alkaline phosphatase level may be secondary to metastases in the liver or bones.

The clinician and surgeon must carefully evaluate the overall situation in order to decide on the proper course of action.

It is important to evaluate the extent of the disease and regional nodes to help in choosing the proper patient for surgical excision or radiation therapy which will decrease the morbidity and mortality of breast cancer.

In this study, stress has been made on the anatomy of the breast, physiology of the female breast, early detection of breast cancer, diagnosis of breast mass, pathology of different breast masses and their management.

The aim of the work is to diagnose breast mass with proper management to reduce the complications.

**ANATOMY
OF
THE BREAST**

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TOPOGRAPHY OF THE BREAST

The normal breast in a woman extends from the second or third rib superiorly to the sixth or seventh rib inferiorly, medially from the margin of the sternum, and laterally its extent is variable. It may extend around the lateral border of the pectoralis major through the axillary fascia into the axilla as the axillary tail of Spence (Fig. 1).

The glandular tissue of the breast may be dispersed over a considerably wider area, extending superiorly to the clavicle, laterally into the axilla, and inferiorly into the anterior abdominal wall as well as to the middle line medially.

The gland averages approximately 10 to 12 cm in length craniocaudally and 3 to 5 cm in thickness. A non-lactating breast weighs approximately 200 g., a lactating breast may weigh as much as 500 g.

SKIN:

The skin of the breast contains a rich subcutaneous vascular plexus and accompanying lymphatics. The ducts of the mammary gland pass to the skin and very often lie directly in contact.

FASCIA:

The mammary gland is ectodermal in origin and

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