

V. Special Populations

IMPLANTS

Women with implants should receive regular mammography according to accepted screening guidelines. The mammogram can often be optimized by a technique called “push back” views. Palpable masses can be evaluated with routine TT (triple test) or MTT (modified triple test), with the exception that it is usually prudent to do all indicated needle biopsies by ultrasound or stereotactic guidance, to avoid implant rupture. Suspected implant rupture is best evaluated by MRI or ultrasound. The presence of implants is not known to increase the risk of breast cancer. Women with implants who are diagnosed with breast cancer can choose lumpectomy and radiation therapy (if clinically appropriate) and thus be treated with the implant in place. The presence of an implant does not seem to significantly impact the effectiveness of radiation, although radiation does slightly increase the risk of subsequent implant rupture.

PREGNANT WOMEN

Because of age and physiology issues, pregnant women do not typically undergo screening mammography. However, dominant masses noted on breast self-examination (BSE) or clinical breast examination (CBE) should be evaluated by TT or MTT, realizing that diagnostic mammography is fairly safe after the 1st trimester. Open surgical biopsy should be avoided whenever possible because of the risk of milk fistula; fine needle aspiration (FNA) and core biopsy are good alternatives.

Cancers diagnosed during pregnancy or up to a year after delivery are termed “pregnancy associated” and usually present at a higher stage than cancers in non-pregnant patients. The stage-for-stage prognosis of pregnancy-associated and non-pregnancy-associated breast cancers may be the same, although this is controversial. There is no evidence to suggest that therapeutic abortion is necessary or improves the prognosis when breast cancer is diagnosed in a pregnant women. Any discussion to abort the fetus should be between the woman and her provider; ultimately, the decision resides with the patient and possibly her partner. If the fetus is kept, chemotherapy is generally safe after the second trimester, and breast preservation is an option if technically appropriate, as long as the radiation is delayed until after delivery.

More information on screening and diagnostic workup for women who are pregnant or lactating can be found in highlighted text as follows:

- Difficult breast exam page 19
- Imaging workup page 24

YOUNG WOMEN (<40 YEARS OF AGE)

Screening and workup of breast lesions in these women have been previously discussed. Some, but not all, data suggest that stage-for-stage prognosis of breast cancer is slightly worse for younger women compared to women older than 40. Breast preservation may be associated with a higher local recurrence rate in younger women, although it should still be offered as long as the woman is aware of this risk. Young women with very good prognosis lesions, including DCIS, should consider bilateral mastectomy and reconstruction to reduce further risk of new lesions, especially when there is a family history or risk.

More information on screening and diagnostic workup for women who are under age 40 can be found in highlighted text as follows:

- Risk Assessment by Age page 7
- BRCA Counseling page 8
- High Risk under age 40, and screening frequency page 9
- Appropriateness of diagnostic mammogram page 21
- Ultrasound in women under age 35 page 22
- Imaging in women with a discrete palpable mass page 24

MALES (MALE BREAST CANCER)

The male breast is normally only a small disk of ductal tissue behind the nipple areolar complex. Enlargement of this tissue, either unilateral or bilateral, especially when soft or firm (not hard) and tender, is most commonly due to **gynecomastia**, a benign enlargement of male breast tissue with many causes (including any condition causing relative hyperestrogenism and several medications).

Risk Factors:

Predisposing male breast cancer risk factors appear to include:^{37,38}

- Radiation chest wall exposure, particularly radiation given for the treatment of childhood malignancies.
- Estrogen administration, and diseases associated with hyperestrogenism, such as cirrhosis or Klinefelter's syndrome.³⁹
- There are definite familial tendencies, with an increased incidence seen in men who have a number of female relatives with breast cancer.
- An increased risk of male breast cancer has been reported in families in which the BRCA 1 or 2 mutation on chromosome 13q has been identified.
- Prolonged heat exposure (e.g. iron smelter or foundry worker) which may have a suppressive effect on testicular function.
- Advanced age.

Gynecomastia is a definite risk factor, probably because elevated levels of estrogen increase the risk for both gynecomastia and for breast cancer. Drugs that can cause gynecomastia include the following (the list is by no means complete):

- Ketoconazole, a synthetic imidazole derivative, is an azole antifungal agent
- Spironolactone is a potassium-sparing diuretic.
- Phenothiazines are antipsychotic agents, specific members of this class of drugs include: Chlorpromazine, Chlorpromazine Hydrochloride, Fluphenazine Decanoate, Fluphenazine Hydrochloride, Mesoridazine Besylate, Perphenazine, Prochlorperazine, Prochlorperazine Edisylate, Prochlorperazine Maleate, Thioridazine, Thioridazine Hydrochloride, Trifluoperazine Hydrochloride, Trifluoperazine Hydrochloride.
- Isoniazid is a synthetic, isonicotinic acid-derivative antituberculosis agent.
- Digoxin, a cardiac glycoside. Cardiac glycosides are used principally in the prophylactic management and treatment of heart failure and to control the ventricular rate in patients with atrial fibrillation or flutter.
- Rauwolfia alkaloids, used in the management of mild to moderate hypertension.

Symptoms:

- Approximately 20-30% present with bloody nipple discharge and pain
- Approximately 70% present with a painless mass.

Signs:

Signs evident on physical examination are similar to those described in female breast cancer. Nipple discharge in a male is more often associated with cancer than in females, and should trigger a surgical evaluation.

Evaluation:

A male patient presenting with above-mentioned findings should be evaluated with physical examination initially (as described on pages 10-11). Physical examination alone has a sensitivity of nearly 100%; however, by itself it will usually not be sufficient to categorically identify malignancy. Imaging of the breast will often provide relevant diagnostic information in MBC. If MBC is suspected on the physical exam, a mammogram and conventional diagnostic breast imaging workup can usually distinguish breast cancer (rare) from gynecomastia (common). Ultrasound is occasionally helpful in conjunction with the mammogram. FNA with expert cytological evaluation and core biopsy are also helpful in assessing suspicious lesions in the male breast. In the case of MBC a high degree of suspicion is necessary in the evaluation of the patient in order to avoid delays in treatment.

Treatment:

Small tumors (less than 2 cm) may occasionally be considered for less radical procedures such as partial mastectomies, although given the anatomy of the male breast the distribution of tumors might preclude such interventions. Lymph node dissection should be entertained for staging in most tumors, particularly larger lesions. Also, adjuvant radiotherapy should be considered. Larger tumors will require mastectomy and possibly irradiation for local control. Adjuvant chemotherapy should be provided to those with large tumors and positive axillary nodes. This has been recommended by some researchers with some degree of success. Most tumors in MBC are hormone receptor positive allowing for hormonal therapy to be applied effectively.

Survival:

Historically, MBC is known for increased mortality but current clinical data suggest that overall five-year survival is comparable, stage to stage, to female breast cancer.⁴¹ In early stage disease, survival varies from 71 to 100%. In advanced stages it can be as low as 20%.