Case Report
An 80-year-old male with coronary artery disease and atrial fibrillation status post bypass and pacemaker placement presented to the office with 1-2 weeks of left arm redness and swelling, which started after gardening. Physical examination revealed inner left arm erythema extending into his axilla with edema over the dorsum of his hand extending up to his axilla and around the upper left chest near his pacemaker site. There was no tenderness over the pacemaker site, which had surrounding induration. There was axillary fullness initially thought to be reactive lymphadenitis. The patient was treated with oral cephalexin. He was re-examined two days later with no change in erythema, swelling or induration. He was switched to amoxicillin/clavulanate and reevaluated in another 48 hours, again without improvement. The patient was admitted to the hospital and started on intravenous antibiotics. A CT scan of his axilla and chest revealed significant axillary lymphadenopathy and a large 5 cm mass inferior to his pacemaker site. Subsequent biopsy of this mass revealed invasive, moderately differentiated adenocarcinoma of the breast, strongly positive for estrogen and progesterin receptors.

Because of his stage, age and co-morbidities, he was initially started on tamoxifen. He tolerated therapy well and after six months he was changed to fulvestrant. He seemed to have an early response with softening of the primary mass, and decrease in the axillary lymphadenopathy. He is currently tolerating maintenance therapy.

Breast cancer in males is rare compared to female breast cancer, with 1/100 the incidence in women. It represents less than one half of 1% of all male cancer deaths in the United States1. Most patients have no discrete risk factors, however, meta-analyses found risk of male breast cancer increases with gynecomastia, testicular or liver pathology, family history of breast cancer, or history of prior chest radiation2. Gynecomastia may increase risk because underlying medications which can cause gynecomastia may alter hormone balance. Hormone imbalance may link risk factors and the risk of developing male breast cancer. Patients with liver disease may have increased circulating levels of estrogen, and diminished levels of androgens3. The underlying causes of liver disease are not independent risk factors for developing male breast cancer. Male patients with prolactinomas are at increased risk of developing cancer. The associated lower testosterone levels and altered balance of estrogens and androgens seems to be the key factor4. Patients with Klinefelter’s Syndrome have a very strong association with male breast cancer with a 50-fold higher risk than the general male population5. The association of testicular atrophy, gynecomastia, and high ratio of estrogens to androgens is the presumed link.

Many medications are associated with gynecomastia and altered estrogen levels. One drug unique to the male population is Finasteride. The use of Finasteride may be associated with the development of male breast cancer6. The United Kingdom has issued a warning regarding Finasteride and risk of male breast cancer.

As with female breast cancer, inherited genetic mutations also play a role in developing male breast cancer. Men with BCRA2 mutation have a 100-fold higher risk of developing breast cancer than the general male population7.

Male breast cancer tends to present as a painless firm mass. Most are sub-areolar, where the highest density of breast tissue is located in males. The incidence is slightly higher on the left for unknown reasons. Bilateral disease is extremely rare8. At the time of diagnosis, the lesions tend to be fixed to the skin or chest wall due to the minimal amount of surrounding tissues in the male breast, causing more skin dimpling and nipple retraction.

The histology of male breast cancer is almost invariably infiltrating ductal carcinoma. Men tend to have a much higher degree of expression of estrogen and progesterone receptors than women8. In men, approximately 90% are estrogen receptor
positive, and 80% progesterone receptor positive compared to 60-70% of women with the disease.

Treatment for localized disease is usually local resection with a modified radical mastectomy. Adjunctive chemotherapy or radiation treatment may be recommended for more advanced disease. Tamoxifen is almost universally recommended because of the high incidence of estrogen receptor positivity. Tamoxifen is less well tolerated in men due to side effects of decreased libido, mood alteration, and hot flashes. Nearly five times as many men compared to women stop tamoxifen therapy due to side effects.

Treatment for stage II or III disease involves chemotherapy with an anthracycline based regimen, with the hope of decreasing tumor size to be amenable to surgical resection. As with female breast cancer, prognostic indicators include tumor size, number of involved lymph nodes, presence of metastatic disease, and the presence of hormone receptors.

When men and women with breast cancer are matched for age at diagnosis and disease stage, there is no significant difference in survival, despite men usually being diagnosed at a later age with more advanced disease. Screening men with a thorough family history and routine breast exams lead to earlier detection.

REFERENCES


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