

East Alabama Medical Center CANCER CENTER

Site Study - 2005 (based on 2004 analytic data)
Breast Cancer



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Breast cancer is the most common malignancy diagnosed in American women and the second leading cause of death from cancer. There are an estimated 200,000 cases of breast cancer diagnosed in women each year in the United States. Approximately 40,000 women die of breast cancer each year in the United States. It is estimated that the average Caucasian woman in the United States has a 13.1% lifetime risk of developing breast cancer, while the average African-American woman has a 9.6% lifetime risk.

Many factors that increase the risk of a breast cancer diagnosis have been identified. The most significant risk factors are age, family history of breast cancer (especially presence of BRCA1 or BRCA2 genes), history of exposure to endogenous (early onset of menarche, nulliparity, and the late onset of menopause) and exogenous hormones (hormone replacement therapy), and other dietary and environmental factors (obesity, personal history of radiation therapy, sedentary lifestyle).

Current screening guidelines recommend annual physical examination (breast exam and mammography for all women 40 years or older) and monthly breast self-exam. Younger women at high risk for breast cancer should have mammography at an earlier age (maybe even at age 25).

Breast cancer is usually diagnosed after a lump is found in the breast, or an abnormality is detected at the time of mammography. The gold standard is still biopsy and pathological evaluation of the specimen. A variety of approaches, including fine needle aspiration (FNA), core needle biopsy, excisional biopsy, and radiology-guided biopsy are available. Once the diagnosis is made, women may undergo "staging" studies. Patients who have symptoms need evaluation of those symptoms. Women at high risk for occult metastatic disease at the time of presentation (i.e. Stage III patients) should undergo comprehensive staging.

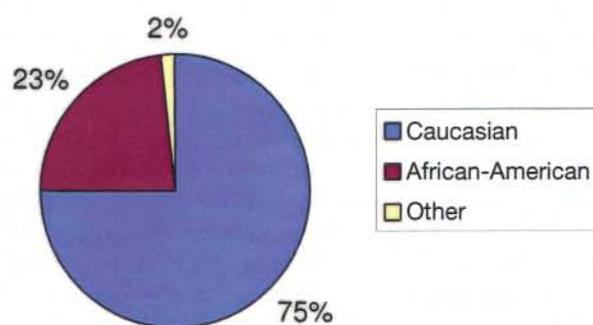
Breast tumors are divided into two major groups. *In situ* cancers refer to breast tumors where the tumor cells remain confined within the ducts of the breast

and show no evidence of invasion into the surrounding breast tissue. Invasive or infiltrating cancers are those in which the tumor cells invade through the breast ducts or lobules into the surrounding breast tissue. Invasive breast cancers are typically classified as being invasive ductal cancer, invasive lobular cancer, or one of several rarer types (tubular, mucinous, and medullary).

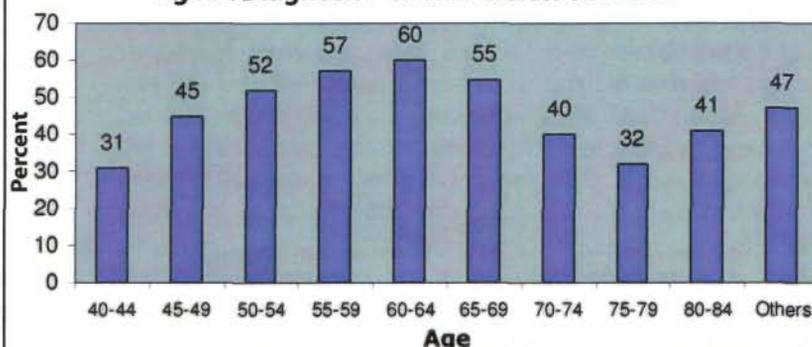
Staging of breast cancer is determined by the size of the primary tumor (T), the extent of involvement of the regional lymph nodes (N), and the presence or absence of spread to other organs (M). This TNM staging is used widely in the evaluation of breast cancer. According to the TNM staging system, breast cancer is classified stages 0 through IV.

Clinical and pathological staging using the size of the tumor and the extent of involvement of axillary lymph nodes remains the most important prognostic factor for breast cancer. Other prognostic factors include histologic type and grade, the measurement of hormone-receptor expression (estrogen and progesterone receptor), the HER2 receptor status, and the presence or absence of lymphatic/vascular invasion. Patients who have smaller tumor size, negative

Ethnic Origin of EAMC Breast Cancer Patients



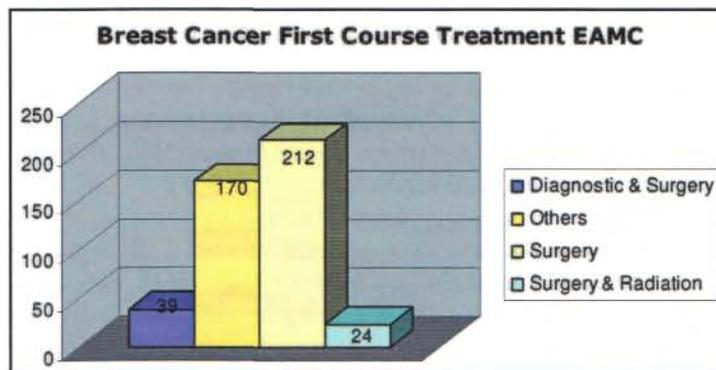
Age at Diagnosis - Breast Cancer at EAMC



Demographics: The breast cancer population treated at EAMC is composed of 75% Caucasian and 23% African-American. The age range is from 40 to 84, with the largest age groups between 55 and 69 years.

axillary lymph node status, positive hormone receptor status, low tumor grade, absent lymphatic/vascular invasion, and negative HER2 status have the best prognostic picture.

Comprehensive care for women with Stage I, II, or III breast cancer combines local-regional therapy to the breast/chest wall/regional nodal areas with systemic therapy. For most women diagnosed with breast cancer, this multimodality therapy initially includes surgery to remove the tumor (lumpectomy versus mastectomy). Medical oncologists often offer preoperative chemotherapy to those who have large tumors.



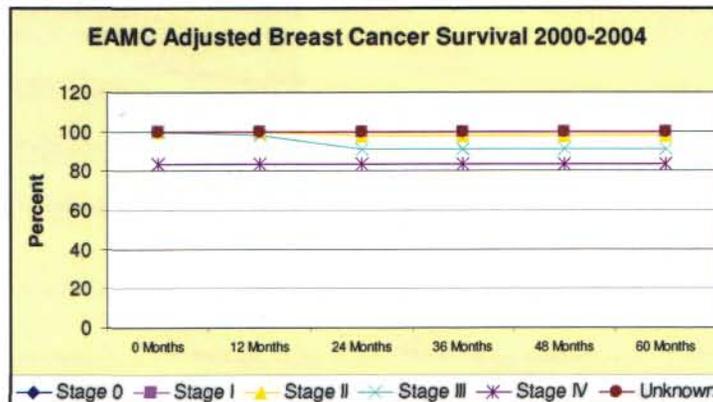
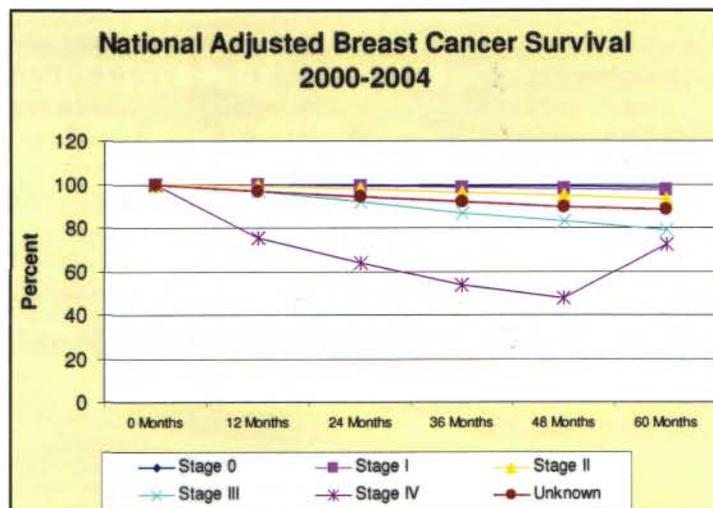
The first course treatment option for women with breast cancer is surgery.

Adjuvant radiation therapy is the standard treatment after lumpectomy. Randomized trials have shown that radiation therapy reduces the risk of tumor recurrence within the breast. The role of radiation therapy after mastectomy remains more complicated. A national consensus panel has recommended post-mastectomy radiotherapy for women at high risk for local recurrence. The decision to use radiation therapy after mastectomy should be individualized based on risk of local recurrence. This decision can be made after thorough discussion with the patient's radiation oncologist.

Systemic therapy for early-stage breast cancer includes adjuvant chemotherapy and adjuvant hormonal therapy. Randomized studies have demonstrated that adjuvant chemotherapy reduces the odds of tumor recurrence and improves overall survival in women with breast cancer. Current recommendations include multiple cycles (three to six months) of multiple chemotherapy drugs (two or three agents) administered at certain defined doses. High-dose chemotherapy administered with bone marrow or peripheral stem cell support has failed to improve upon the results of standard treatment.

More than two-thirds of all breast cancers have positive estrogen and/or progesterone receptors. Compelling randomized trials have shown that adjuvant hormonal therapy reduces the risk of systemic tumor recurrence and improves survival with hormone-sensitive breast cancer. Treatment is effective regardless of the patient's age or menopausal status. Five years of adjuvant hormonal therapy should be offered to all those who have hormone-sensitive breast cancer.

East Alabama Medical Center had comparable adjusted survival data from 2000 through 2004 with the National Oncology Data Base in all stages.



In stage 0, both data reported 100% in 5 year survival. In Stage I, 5 year survival was 100% for EAMC and 98% for national data. In Stage II, it was 98% versus 96%. In Stage III, it was 91% compared to 88%. And finally in Stage IV, 5 year survival was 83% for EAMC and 62% for the national data. With proper screening and treatment modalities, this data at East Alabama Medical Center will continue to improve.

References

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- Devita Vincent T., Hellman Samuel, Rosenberg Steven A. *Cancer Principles and Practice of Oncology Sixth Edition*. Philadelphia: Lippincott, Williams and Wilkins, 2001.
- Information Management Picture Archival and Communications (IMPAC), National Oncology Data Base (NODB), Analytic Adjusted Breast Cancer Cases, 2000-2004 data.

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