Men Less Likely than Women to Survive Breast Cancer

Largest Study Ever of Male Breast Cancer Finds Significant Gender Differences

Abstract: Analysis of 13,000 Male Breast Cancers from the National Cancer Data Base.

May 4, 2012, Phoenix--Men have a significantly lower breast cancer survival rate than women, particularly for early stage disease, according to the largest study ever analyzing gender differences in breast cancer patients. The study was presented this week at the American Society of Breast Surgeons (ASBrS) Annual Meeting. It compared more than 13,000 male and 1,440,000 female breast cancer cases entered from 1998 to 2007 in the National Cancer Data Base (NCDB), the largest repository of cancer patient data in the U.S.

The study found that the five-year survival rate for women overall was 83%, compared to 74% for men. When analyzed by disease stage, the differences were greatest for the early stages of breast cancer. They
were highly significant during stage 0 (94% vs. 90%), stage 1 (90% vs. 87%) and stage 2 (82% vs. 74%),
while survival at stage 3 and 4 were similar.

Men presented with significantly larger tumors which were more likely to have spread to lymph nodes
and were more likely to have distant metastases.  “This may be attributed to the fact that awareness of
breast cancer is so much greater among women than men,” comments lead researcher Jon Greif, D.O.,
FACS, of the Bay Area Breast Surgeons.  “Guidelines call for regular screening, both clinical and
mammographic, in women, leading to earlier detection.”

Although males account only for about 1% of all breast cancer cases, approximately 2000 men will
develop the disease every year.  According to Dr. Greif, the number is large enough that a busy practicing
breast cancer surgeon is likely to see one or more cases every year.

The study also found that men were more likely than women to have estrogen-positive tumors (88.3%
vs. 78.2%). The data showed that although the treatment of male breast cancer has generally followed
the guidelines for female disease, only 41% of males in the study were treated with anti-estrogen
medications.  “If estrogen blocking medications were used more liberally for men with breast cancer,
outcomes may improve,” comments Dr. Greif.

Males with breast cancer were more often African American (11.7% vs. 9.9%) and less often Hispanic
(3.6% vs. 4.5%). They were more likely to have a full mastectomy, while women were more likely to have
a lumpectomy.  Men were also less likely than women to be treated with radiation.

“Regular mammographic screening might even benefit certain high risk men, although no research or
controlled trials have been conducted on male screening as there have been for women,” Dr. Greif
comments.  Men at risk include those with certain genetic predispositions, family breast cancer histories,
significant exposure to radiation in the chest area and a history of breast cancer.

Dr. Greif notes that the average male with breast cancer was age 63 at diagnosis, while women were 59
years of age.  Also, the NCDB database does not provide the cause of patient death.  “We cannot assume
that the survival difference was due only to breast cancer,” he says.  “Furthermore, male breast cancer is
nearly always found as a lump, while many female breast cancers are detected before a lump is felt,
through screening. This might also explain many of the findings of our study, including the more
advanced stage at presentation and the lower overall survival of men with breast cancer.”
The authors of the study hope to generate awareness that males do suffer breast cancer and frequently enough to warrant concern, especially with advancing age.

“Examination of a man’s nipple and areolar area, where invariably male breast cancer is first apparent, might result in detection of male breast cancer at a smaller and less advanced stage,” Dr. Greif concludes. “Men and their healthcare providers should take note.”
Abstract

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Title: Gender Differences in Breast Cancer: Analysis of 13,000 Male Breast Cancers from the National Cancer Data Base.

Objectives: It has been more than a decade since the National Cancer Data Base (NCDB) was analyzed to compare male to female breast cancer. This update examines gender differences in demographics, tumor characteristics, treatments and outcomes.

Method: All patients with breast cancer entered in the NCDB from 1998 through 2007 were compared for differences in gender, and then for age, race/ethnicity, histology, grade, tumor size, lymph node involvement, hormone receptor status, course of first treatment, and overall survival. Statistical significance was determined by chi square test and Odds Ratio (OR) for categorical variables and by non-parametric test for continuous variables. Survival rates were calculated using the Kaplan-Meier method and compared by log-rank test. Statistical significance was set at p less than or equal to 0.05.

Results: 13,457 cases of male breast cancer were identified, representing 0.9% of all breast cancers, and compared to 1,439,866 female breast cancers. Males with breast cancer were more often African American (11.7 vs 9.9%, OR 1.19), less often Hispanic (3.6 vs 4.5%, OR 0.74) and older (63 vs 59 years old). Males had larger tumors (median 20.0 vs 15.0 mm), were less likely to have grade 1 tumors (16.0 vs 20.7%), were more likely to have lymph node metastasis (41.9 vs 33.2%, OR 1.45), and more likely to have distant metastasis (4 vs 3%, OR 1.39). Males were less likely to have lobular carcinoma (10 vs 18%, OR 0.51) and more likely to be estrogen receptor positive (88.3 vs 78.2%, OR 2.10) and progesterone receptor positive (76.8 vs 67.0%, OR 1.63). Males were less likely to have a partial mastectomy (33 vs 62%, OR 0.31) and less likely to receive radiation (35.9 vs 50.4%, OR 0.55). All of these differences were highly statistically significant (p<0.0001). Because of the large number of cases, however, differences which achieved levels of statistical significance may not be of clinical significance. There was no statistically significant difference in chemotherapy rates (40.1 vs 39.8%, OR 1.01, p=0.40) and only small differences in hormonal therapy rates (41.2 vs 42.4%, OR 0.95, p=0.006). Differences in overall survival (OS) were highly statistically significant (p<0.0001) for all patients by gender: 83% 5-year OS for women with breast cancer (median survival 129 months) vs 74% for men (median survival 101 months). When OS was compared by stage, females with breast cancer had highly statistically significantly improved 5-year OS (p<0.0001) for Stage 0 (94 vs 90%), Stage I (90 vs 87%) and Stage II (82 vs 74%) breast cancer. There were no differences in 5-year OS for Stage III (56.9 vs 56.5%, p=0.99) or Stage IV (19 vs 16%, p=0.20).

Conclusions: This large comparative study re-examines male and female breast cancer to compare patient demographics, tumor characteristics, treatments, and outcomes, and demonstrates that men lag behind women in overall survival rates for early stage breast cancer.