

Male and female breast cancers are not identical

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Results of the EORTC10085/TBCRC/BIG/NABCG International Male Breast Cancer Program conducted in both Europe and in the United States and presented at the 2014 San Antonio Breast Cancer Symposium found significant improvement in survival for men with breast cancer, but this improvement was not as good as that observed for women. The study, which included 1822 men treated for breast cancer between 1990 and 2010, provides much needed information about the clinical and biological characteristics of male breast cancer.

Dr. Fatima Cardoso of the Champalimaud Clinical Center in Lisbon and coordinator of this study says, "This study aims to characterize the biology of this rare disease; only with this crucial knowledge will men with [breast cancer](#) be properly treated in the future, which will definitely improve both their survival and quality of life".

Of all cancers diagnosed in males, breast cancer accounts for less than one percent, and male breast cancer also accounts for less than one percent of all breast cancer diagnoses. There are, however, African countries reporting a high incidence of male breast cancer, and these include Uganda, 5%, and Zambia, 15%. Nevertheless, even though it is considered a [rare disease](#), male breast cancer remains frequently lethal. In 2013 estimates indicated just 2,240 new cases of male breast cancer in the United States yet, alarmingly, 410 deaths.

Today, male breast cancer is not well understood, and the best way to treat this disease is not yet known. Currently, treatment strategies for

men afflicted with this disease are based on those that have been used successfully for women, and research on the differences between men and women regarding the characteristics of this disease was sorely needed. Only case-control and retrospective studies with small numbers of male patients with breast cancer had been performed, and previous to this study there were no available data from randomized clinical trials, a consequence of the closing of all clinical trials for this patient population due to poor accrual.

Fortunately, the collaborative research strategy whereby the EORTC, Translational Breast Cancer Research Consortium (TBCRC), Breast International Group (BIG), and the North American Breast Cancer Groups (NABCG) have joined forces to launch this International Program on Male Breast Cancer, has provided a practical approach to learn more about this rare yet deadly form of cancer. The results of this study point out that male breast cancers are not identical to female breast cancers, and that men are not as well managed as female patients. For example, although the majority of male breast cancers are estrogen receptor (ER) positive, only 77 percent of male patients with this disease received hormonal therapy such as Tamoxifen, and despite the fact that slightly over half of all male breast cancers are diagnosed when the tumors are very small, only four percent of male breast cancer patients received breast-conserving surgery. The majority underwent mastectomies, a treatment decisions that can adversely affect quality of life, self-esteem and sexuality.

Analyses of tumor samples conducted as part of this study showed that 99 percent of male breast cancers were ER positive, seven percent were human epidermal growth factor receptor 2 (HER2) positive, and one percent were triple negative, meaning that they do not express the genes for ER, progesterone receptor (PR), or HER-2, and consequently do not respond to hormonal therapy nor anti-HER-2 therapies. For women, on the other hand, roughly 70 percent of breast cancers are ER-positive, 20

percent are HER2-positive, and 10 to 15 percent are triple-negative.

Additional findings were that grade 2 invasive ductal carcinomas were the most common histological type, and male breast cancers are usually androgen receptor positive, and of luminal A- like subtype (7% HER2 positive & 1% TNBC). Overall, adjuvant radiotherapy appears to have been delivered properly, and anthracyclines were preferred as adjuvant chemotherapy and Tamoxifen for hormonal therapy following loco-regional treatment.

The second part of this male breast cancer program is now open: a prospective international registry of all [male breast cancer](#) patients treated at the participating institutions for a period of 30 months with collection of clinical data. Here, the number of patients who could be feasibly recruited for a future clinical trial will be evaluated, patterns of care will be described, and prospective sample collection will be performed in selected countries. A Quality of Life sub study is also ongoing, using the EORTC QLQ-30 questionnaire and items from the BR-23 and PR-25 questionnaires.

Discussions are already ongoing, for the opening of a prospective randomized clinical trial, as the first project of the third part of the International Male Breast Cancer Program.

The EORTC 10085 Male BC intergroup study is a fully academic study supported by the Breast Cancer Research Foundation, the EORTC Breast Cancer Group, the Dutch Pink Ribbon, the EBCC Council, the Swedish Breast Cancer Association (BRO), and the Susan G. Komen For the Cure.

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