

Major differences between male and female breast cancers uncovered but male patients still disadvantaged

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Male breast cancer (Male BC) has important biological differences that distinguish it from female breast cancer, but to date these have been little studied and Male BC patients have been excluded from many clinical trials in breast cancer. Male patients are also usually diagnosed later when their cancers are more advanced, leading to a worse outcome. New research has now uncovered some of the differences between the two types of breast cancer, and the researchers hope that this will help doctors to make better treatment choices for Male BC patients.

Speaking at the 10th European Breast Cancer Conference (EBCC-10) today (Thursday), Dr Carolien van Deurzen, MD, a pathologist specialising in breast cancer at the Erasmus Medical Centre, Rotterdam, The Netherlands, reported results from a study of the relationship between the pathology of different types of Male BC and their prognosis. The study forms part of the International Male Breast Cancer Program, led by the European Organisation for Research and Treatment of Cancer (EORTC) in Europe and the Translational Breast Cancer Research Consortium (TBCRC) in the USA. The team of researchers examined 1203 tumour samples from Male BC patients who made up part of the largest series of this disease ever collected linked to outcome data—1483 patients from 23 centres in nine countries.

"Besides conventional tumour tissue characteristics, such as subtype and grade, we also examined additional features, such as the development of

fibrotic connective tissue, and the density of tumour infiltrating lymphocytes, a type of white blood cell often found in tumours and implicated in killing tumour cells," she said. "Interestingly, we found that these two last factors were strongly associated with outcomes in Male BC, whereas tumour grade, a commonly used prognostic measure in female breast cancer was not."

Grading examines the similarity of [breast cancer cells](#) to normal breast tissue in order to classify severity and prognosis of the disease. A potential explanation for the lack of association between grading and outcome in men is the different distribution of breast cancer subtypes in male patients, say the researchers. For example, lobular tumours are relatively common in women but rare in men. The researchers also found that a large proportion of male cancers were luminal, or oestrogen-receptor positive (tumours sensitive to oestrogen-deprivation as a treatment strategy), whereas HER2 positive and triple negative subtypes are more common in women.

"However, this sub-typing of [breast tumours](#) does not seem to result in an optimal risk classification for Male BC patients. Additional tests that are well established in women, including gene-expression profiling, may result in the identification of more accurate prognostic and predictive markers. These could enable us to take better treatment choices, individualised for each patient, particularly in regard to the use of chemotherapy and new targeted agents," said Dr van Deurzen.

Male BC is rare, accounting for less than 1% of all breast cancer cases and 1% of all cancer cases in men. The ratio of female to [male breast cancer](#) is approximately 100:1 and this means that there is little awareness among men, and even among physicians, regarding the occurrence of breast cancer in [males](#). This has major implications for these patients, leading to their often being diagnosed late and therefore affecting prognosis.

The researchers hope to begin a clinical trial soon using a new agent that blocks the androgen receptor, a protein that is frequently present in Male BC, for the patients in the programme.

"This will only be possible with a worldwide collaboration, but it is also important that Male BC patients should take part in general breast cancer trials, since trials for them alone are difficult to run due to the rarity of the disease. In the past, male patients have been persistently excluded, with no scientific rationale for doing so. It is also essential to find independent sources of funding to study Male BC; once again, it is its rarity that makes this difficult.

"In the meantime, we believe that our findings will help focus research in the field, since they indicate that we should be focusing on improving the management of luminal cancers as opposed to other subtypes in these [patients](#)," Dr van Deurzen concluded.

David Cameron, Professor of Oncology at the University of Edinburgh, UK, who was not directly involved in the research, said: "These are important conclusions from this international project. It has always been assumed, based on limited information, that men with [breast cancer](#) should be treated in the same way as women; for the first time, by studying over 1000 cases, it is becoming clear that that this is not so."

More information: Abstract no. 7, "Pathologic prognostic factors of male breast cancer: results of the EORTC 10085/TBCRC/BIG/NABG International Male Breast Cancer Program", Thursday 11.00 hrs, Best oral abstract session, Elicium.

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