

Researchers recommend updating the staging criteria for breast cancer diagnoses

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New findings from Fox Chase Cancer Center paint a relatively optimistic picture of women's chances of surviving a subset of breast cancers that have spread to the chest wall or skin, but not beyond.

Tumors that grow into the skin, regardless of size and whether they have involved lymph nodes, are automatically classified as stage III – and called "locally advanced" tumors, suggesting that they are a relatively serious form of cancer, often with poor survival. Locally advanced breast cancers of this and other types account for five to ten percent of new breast cancer diagnoses in the United States, and sixty to seventy percent of cases worldwide. Now, in a recent issue of the *Journal of the American College of Surgeons*, Fox Chase scientists cast doubt on that standard classification, by showing that women with breast cancers involving the skin have widely varied survival rates which differ by [tumor](#) size and nodal involvement.

"Many women with tumors that happen to have spread to the skin may unfortunately be given an inaccurately dire prognosis – along with, perhaps, some unnecessary treatment," says Richard J. Bleicher, MD, FACS, Associate Professor in the Department of Surgical Oncology and Director of the Breast Fellowship Training Program at Fox Chase Cancer Center. "We need to update our staging criteria to more accurately reflect a woman's true chances of surviving her cancer because the size of her tumor and the involvement, or lack of involvement, of lymph nodes tells us more about her prognosis than whether skin is involved."

Within the group of tumors that have spread to the skin, there is much variety, both in size and whether or not they have spread to the lymph nodes; since these tumors occur relatively rarely, however, scientists have struggled to understand how that heterogeneity might impact survival. In this study, Bleicher and his colleagues looked at

the SEER-Medicare Linked Database. They focused on patients age 65 or older who had been diagnosed with invasive [breast cancer](#), and had surgery to completely remove or reduce the size of their tumors.

The researchers then created two additional subgroups: those who had extensive skin involvement and those without. From there, they regrouped the cancers using the TNM Staging System, a commonly used tool for doctors to stage different types of cancer based on certain standardized criteria.

"We used this system to regroup both types of cancer by tumor size and nodal involvement," said Dr. Bleicher. "We also looked at factors like age, race, sex, histology, grade, estrogen and progesterone receptor status, surgery, chemotherapy and radiotherapy."

After excluding some patients who lacked pertinent data and other factors, the researchers compared 924 with significant skin involvement to 66,185 others whose tumors had not spread to skin. All of the patients with significant skin involvement were originally classified as stage III. However, after restaging these tumors based strictly on the size and/or extent of the primary tumor, and whether the cancer had spread to nearby lymph nodes, nearly half (43%) were staged to earlier stages. The women restaged in this fashion did as just well as the women classified to those other stages because they didn't have skin involvement.

Overall, stage III cancers have a 5-year survival that ranges from 41% to 67%; these results suggest that some women diagnosed with tumors that spread to the skin actually have a 96% chance of surviving 5 years, based on their tumor's size and nodal status – similar to other early-stage tumors that have not spread to the skin. "Classifying all tumors with skin involvement as stage III belies the purpose of staging, which is to

group tumors with a similar prognosis," says Bleicher.

It makes sense that not all tumors with skin involvement behave the same, adds Bleicher. "Some small, invasive tumors will spread to the skin simply because they happen to arise close to it," he noted. "That doesn't necessarily mean they will have a worse prognosis than a similar tumor that is located far enough away from the skin that it hasn't reached it yet."

Based on these findings, Bleicher and his colleagues recommend adding a staging category to tumors with skin involvement, and using other criteria such as tumor size and whether or not it's spread to [lymph nodes](#) to determine stage preferentially over skin involvement. Not all of these tumors should be treated the same, he notes. "For the smallest of these lesions, they may not require such aggressive treatment as chemotherapy before surgery," he adds. "We need to follow a significant number of patients in that specific category before concluding how they should best be treated."

Provided by Fox Chase Cancer Center

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