

Benefit of endocrine therapy in elderly women with low risk hormone receptor positive breast cancer?

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Treatment with endocrine therapy and radiation therapy as part of breast conservation is the current standard of care for women with hormone-receptor positive (HR+) invasive breast cancer. A new study by researchers at Fox Chase Cancer Center, however, shows that combination may not be necessary for all patient populations with the disease.

The results, which Fox Chase researchers presented at the American Society for Radiation Oncology's 56th Annual Meeting on Sunday, September 14, suggest that low-risk [patients](#) over 65 years old with small tumors may achieve comparable survival after treatment with adjuvant radiation therapy alone – without undergoing [endocrine therapy](#).

"When they're treated with adjuvant radiation therapy alone, [elderly women](#) with small, low risk tumors may have acceptable results," says Colin T. Murphy, MD, Radiation Oncologist at Fox Chase and lead author on the study. "Once their tumors start to get bigger, however, we identified an increasing risk for metastasis, and those people likely need to be on endocrine therapy."

Results from recent phase III clinical trials have suggested that elderly women with low risk, early stage HR+ [breast cancer](#) can attain acceptable outcomes when treated with endocrine therapy alone, without radiation. Dr. Murphy, however, observed that outcomes resulting from

treating with radiation alone, without endocrine therapy, had not been similarly tested.

"There are scant data comparing radiation therapy versus radiation and endocrine therapy in this low risk elderly population, and that's what we were trying to do here," he says.

To compare outcomes, Dr. Murphy and his colleagues studied the medical records of 504 patients over age 65 diagnosed with invasive, estrogen- or progesterone-positive breast cancer who had been treated at Fox Chase between 1981 and 2011. All patients had undergone breast-conserving surgery and [radiation therapy](#), and tumor sizes ranged from 0.1 to 5 centimeters. Of those patients, 311 (62%) had been treated with both radiation and endocrine therapy, and the rest had been treated with radiation alone.

Patients in the group treated with radiation alone had a median age of 72, compared to 71 in the combination treatment group. In addition, patients treated with radiation alone tended to have smaller, lower-grade tumors, and fewer positive surgical margins, than patients in the group who were prescribed endocrine therapy.

From the outset, the patients treated with both therapies were in "a slightly higher risk group than radiation alone," says Dr. Murphy.

He and his team analyzed a number of clinical outcomes, including local control, regional control, freedom from distant metastasis, disease-free survival and overall survival. They found little to no difference in rates between the treatment groups in any of the studied outcomes at a 10-year follow-up.

The researchers identified larger tumor size as a predictor of increased risk for distant metastasis or shorter disease-free survival in the patient

population, regardless of treatment group. Of the 31 patients with metastatic disease at the time of follow-up, 26 had had tumors larger than 1 centimeter.

The study also found poorer outcomes in patients who did not adhere to the prescribed endocrine therapy (adherence was defined as completing five years of endocrine therapy or taking endocrine therapy at the time of the most recent follow-up).

Ten years post-treatment, patients treated with radiation alone had an estimated disease-free progression rate of 92%. That estimate compared favorably to the 91% of patients treated with radiation and endocrine therapy who adhered to their endocrine therapy regimen. However, the disease-free progression rate among patients who did not adhere to endocrine therapy was considerably lower, 72%.

In the study, non-adherence to prescribed endocrine therapy was the strongest predictor of both distant metastasis and disease progression. After 10 years, patients who did not adhere to endocrine therapy were five times more likely to have metastasis and four times as likely to have had disease progression as other patients.

Since the study was retrospective, he cautions against drawing broad conclusions. However, he hopes to see a phase III clinical trial in the future, similar to the one that compared outcomes in patients treated with radiation and endocrine therapy to patients treated with endocrine therapy alone. Adjusting standard treatment for appropriate patients could lead to improvements in quality of life.

"In elderly women who have other medical problems, adding an additional medication for their breast cancer may not be feasible," says Dr. Murphy. "The question is, 'for women with a low risk breast cancer, what's the minimal extent of therapy we can deliver to minimally disrupt

an elderly woman's quality of life and still result in an acceptable cancer outcome?"

Provided by Fox Chase Cancer Center

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