

# Cancer patients who receive neoadjuvant therapy followed by mastectomy may not need radiation

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Early-stage breast cancer patients who exhibit limited lymph node involvement may not require post-surgery radiation therapy (RT) when they receive neoadjuvant chemotherapy before a mastectomy, according to researchers from The University of Texas M. D. Anderson Cancer Center.

The findings were reported today at the 50th Annual meeting of the American Society for Therapeutic Radiology and Oncology.

"Radiation after surgery has been shown to benefit the survival of patients who have more advanced tumors," said Tse-Kuan Yu, M.D., Ph.D., assistant professor in M. D. Anderson's Department of Radiation Oncology. "However, administering neoadjuvant chemotherapy prior to surgery has changed how radiation oncologists need to approach treating patients with stage one and two breast cancers."

The retrospective study led by Yu reviewed the cases of 427 women who underwent neoadjuvant chemotherapy and mastectomy from 1985-2004 to observe the value of treating early-stage breast cancer with RT. Of the 427 women, radiation was administered to 253 due to more aggressive tumor features. Those who received radiation more commonly had four or more pathologically involved lymph nodes or lymphovascular invasion.

Specifically focusing on those who did not receive RT, researchers looked at whether each patient's breast cancer relapsed over the course of five years to determine if radiation contributed to preventing its return. Of the group of patients who were not treated with radiation, 20 percent of those with four or more pathologically involved lymph nodes after pre-surgery chemotherapy relapsed compared to 4.2 percent of those with one to three involved lymph nodes.

Interestingly, researchers noted that patients with zero involved lymph nodes after receiving chemotherapy prior to surgery exhibited a zero percent recurrence rate.

"Our findings indicate neoadjuvant chemotherapy controlled the cancer and radiation would have been unnecessary for patients with early-stage breast cancer and negative lymph nodes after neoadjuvant chemotherapy," said Thomas Buchholz, M.D., Chair, Department of Radiation Oncology at M. D. Anderson, the study's senior author.

"Though additional research is warranted, we can begin to surmise that patients can be spared from radiation therapy if they have been treated with neoadjuvant chemotherapy and have less than three involved lymph nodes."

By analyzing initial tumor characteristics in each patient, researchers can begin to classify which patients require post-mastectomy radiation to prevent recurrence. To expand on these findings, researchers at M. D. Anderson are planning future prospective clinical trials that would confirm whether radiation can be avoided in selected patients with early-stage breast cancer who are treated with neoadjuvant chemotherapy.

Source: University of Texas M. D. Anderson Cancer Center

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