

'One-stop' radiation treatment might offer breast cancer care alternative

November 12 2013, by Dennis Thompson, Healthday Reporter



Study patients received radiation during surgery rather than after.

(HealthDay)—Some women with early breast cancer might benefit from a "one-and-done" treatment, in which they receive a single dose of targeted radiation therapy during the surgery that removes their tumor.

A pair of new studies found that this procedure works about as well as current protocols that require six weeks of daily [radiation therapy](#) following [surgery](#).

The new procedure uses miniature devices that deliver radiation directly to the site of the tumor, while the site remains exposed by surgery following lumpectomy.

"It's right in front of the surgeon's and the [radiation oncologist](#)'s eyes, so we can put the beam precisely where it is needed," said study co-author Dr. Michael Baum, emeritus professor of surgery and a principal

research associate at the University College London Medical School. "We can form the cavity to the shape of the beam. It's elegant and dead simple."

The procedure also appears safer, in terms of [radiation exposure](#). Fewer [women](#) who received targeted therapy died during Baum's study, an occurrence they chalked up to the patients' more limited exposure to radiation.

In Baum's trial, women received one dose of radiation therapy for 20 to 45 minutes following surgery. About 15 percent of the patients had tumor complications that required them to return for the standard weeks of radiation therapy. However, [radiation treatment](#) was completed for the rest of the women, and with cancer recurrence rates comparable to standard treatment.

"You can say 80 percent or more of these women will complete their therapy at the time of surgery," Baum said.

This therapy could prove an advantage for women who live in remote areas without easy access to a radiation therapy center, Baum said.

He said these women often have to undergo a full mastectomy even if they are eligible for breast-saving cancer surgery, simply because they can't make it to the follow-up radiation therapy sessions that will prevent their cancer from recurring.

"I think this will be a boon for American women, even though you are a wealthy country," Baum said. "Even for the wealthiest country in the world, there are many women living in rural areas who don't have the option of traveling two or three hours a day back and forth to a radiotherapy center. This will cut down on the number of mastectomies."

However, only certain women with early-stage [breast cancer](#) will be able to benefit, noted Dr. Stephanie Bernik, chief of surgical oncology at Lenox Hill Hospital, in New York City.

Women best suited for the procedure are over age 45, will have small, single tumors, and the cancer will not have spread to their lymph nodes, she said.

"In certain carefully selected women you can do this, but it does not apply to all women across the board," Bernik said. "We have to be careful not to apply this to every cancer patient who comes through the door."

Baum's study was published online Nov. 11 in *The Lancet*. Over a period of 12 years, his team tracked 1,721 women who received radiation therapy during their [breast cancer surgery](#) and compared their outcomes to those of 1,730 women who underwent standard therapy.

The researchers found that radiation therapy during surgery worked just as well as conventional treatment in reducing a woman's five-year risk of breast cancer recurrence.

Further, they found that overall deaths were reduced in the group that received radiation therapy during surgery, only 3.9 percent compared with 5.3 percent for those who received conventional treatment. However, the rate of deaths caused by breast cancer itself was similar in both groups.

"There was an excess of deaths for other causes in women receiving whole-breast radiotherapy," Baum said. "We think these are the toxic side effects of radiotherapy to the heart causing heart attacks, and radiation causing other cancers."

The second trial, published Nov. 11 in *The Lancet Oncology*, involved 651 women who received radiation therapy following surgery at the European Institute of Oncology in Milan, Italy. This trial used a slightly different device to deliver radiation directly to the tumor site.

The women who received the targeted therapy had higher levels of breast cancer recurrence—4.4 percent, versus 0.4 percent in the comparison group that underwent conventional therapy.

Despite this, overall five-year survival rates did not differ significantly between the two groups.

Baum said researchers next will look at whether providing a "boost" of radiation therapy during surgery will provide benefits to those women who will still need to undergo weeks of conventional therapy. "We think the results will be significantly better," he said.

U.S. oncologist Bernik predicts that radiation therapy during surgery will become more common, but that there are many kinks left to work out.

"This is the beginning of a new trend," Bernik said. "We have a lot of work to do to get to a point where this will be perfected."

More information: For more information on breast cancer, visit the [U.S. National Library of Medicine](#).

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Citation: 'One-stop' radiation treatment might offer breast cancer care alternative (2013, November 12) retrieved 19 November 2023 from <https://medicalxpress.com/news/2013-11-one-stop-treatment-breast-cancer-alternative.html>

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