

Re-radiation Feasible for Recurrent Breast Cancer

BY ED SUSMAN

VIENNA—Re-radiation in cases of locally recurrent or refractory breast cancer can be accomplished with good tumor control and acceptable cosmetic outcomes, researchers reported here at the St. Gallen International Cancer International Conference.

In the retrospective study, only one woman among the 47 treated with re-radiation developed skin necrosis—a feared consequence of administering a second round of radiation therapy. Tomas Merino, MD, a fellow in breast cancer at Sunnybrook Health Sciences Centre in Toronto and Associate Instructor in Oncology at Pontificia Universidad Catolica de Chile in Santiago, presented the results in a poster study.

The women underwent 56 rera-diation procedures overall—including seven patients who had more than one such treatment. Fourteen women had grade 1 to 2 acute radiation dermatitis, four had grade 3 to 4 radiation dermatitis, and one had Grade 4. One patient experienced skin necrosis.

“The most common long-term grade 3 toxicity was fibrosis, which occurred in four women, and telangiectatic changes, which were observed in three women,” Merino reported.

“The patient with necrosis re-recurred within four months of the re-radiation and did not ever gain control of her disease. All the patients who had control of their disease did not develop necrosis.”

Dilemma

He said that when women present with locally recurrent refractory breast cancer after initially being treated with radiation therapy and other modalities, the clinician faces a dilemma: The patient may have several years of life remaining by undergoing various lines of systemic therapy, but radiation is not considered feasible in these patients due to fears of skin necrosis.

“When recurrence develops after radiotherapy, the patient may have significant symptoms that are painful and decreases quality of life,” he said.

Study Details

Two of the patients in the study were re-treated bilaterally, and seven received a

third course of radiation therapy. A total of 48 recurrent tumors were treated using radiation to the breast/chest wall, and eight with partial breast irradiation. The mean cumulative dose equivalent to the whole breast was 99.8 Gy, and the mean cumulative dose equivalent to the tumor cavity was 109.1 Gy.

The women in the study underwent primary treatment at a median age of 54; they were treated with re-radiation for local recurrence at a median age of 60. The original tumor size was about 4.3 centimeters, and at the time of re-radiation the mean tumor size was 6.5 cm.

Eight of the women were diagnosed with HER2-positive tumors at the initial presentation, but only one woman was HER2-positive at the time of re-radiation.

“Most patients initially had significant symptoms before re-radiation therapy due to local recurrence,” he said.

Those symptoms included bleeding, pain, ulceration, lymphedema, and brachial plexus dysfunction. The median time to re-treatment after the initial therapy was 41 months, and median time to systemic failure was 50 months.

About 68 percent of the women had undergone adjuvant chemotherapy at the time of their original breast cancer diagnosis, and at the time of re-radiation 79 percent of the women were being treated with chemotherapy.

“All these patients were managed with a multifocal systemic approach,” Merino said. “They were referred to us when they were running out of systemic lines of treatment. The patients who never responded to re-radiation represented less than two percent of the total.”

Median follow-up for overall survival after retreatment was 17 months. About 73 percent of patients were alive at one year, and 67 percent after two years.

At one year, local control or freedom from recurrence was 62 percent, and 50 percent at two years. Multivariable analysis showed that skin involvement increased the risk of local recurrence by 6.6-fold.

“High-dose re-irradiation is feasible for locally recurrent refractory breast cancer,” Merino said. “This approach

can have a significant benefit to this very high-risk group.”

‘Provocative Findings’

Asked for his perspective, Bruce Mann, MBBS, PhD, Director of the Breast Service at Royal Melbourne Hospital in Australia, said: “These are the cases you never want to see. The patients comes into the office with these masses that are awful.”

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Radiation of these recurrences can destroy the tumor, but may clinicians fear that re-radiation could cause even greater problems. “In some cases of re-radiation there are reports of skin necrosis and some patients have required major plastic surgery reconstruction. Doctors would usually say that you should not re-radiate because the normal tissue cannot tolerate re-radiation. We are told that if you do re-radiate you will end up with skin necrosis that will never heal.

“These findings by Dr. Merino and his team are provocative.”

International Cooperation Needed

Whether the breast cancer community accepts the findings will likely depend on further study, Mann suggested. “A retrospective review is never definitive. I think these cases are ideal for registration studies. You figure something out; you do it internationally. You register your patients before you know the outcome and follow them all.

“The collaborative registration studies are needed for this kind of situation. In breast cancer there are so many of these rare conditions that can only be studied by international cooperation.”

Merino agreed: “This is a rare condition. You will not get a lot of patients at one institution.” The 47 patients in the study were identified from hospital records from 2008 to 2013. 

