

Contact: Beth Bukata
703-839-7332
bethb@astro.org
Julie Barden
703-839-7336
julieb@astro.org

New Radiation Technique Reduces Breast Cancer Treatment Side Effects

Fairfax, Va., August 1, 2007 – Women with early stage breast cancer who receive a newer type of radiation called intensity modulated radiation therapy (IMRT) develop significantly fewer side effects than women who receive traditional radiation therapy, according to a study released today in the August 1 edition of the *International Journal of Radiation Oncology * Biology * Physics*, the official journal of ASTRO.

Standard radiation treatment for breast cancer typically involves directing radiation to the whole breast and using wedges to compensate for so called “hot spots” or areas that receive greater radiation dose due to the shape of a women’s breast. Side effects that can occur include changes in the breast’s shape and feel, and skin irritations similar to a sunburn. These side effects usually will subside after treatment has ended, though long-term side effects such as changes in the color, texture or firmness of the skin and breast swelling can sometimes persist.

IMRT is a specialized type of radiation therapy in which the radiation beam can be broken up into many beamlets, and the intensity of each beamlet can be adjusted individually. This allows radiation oncologists to more precisely shape the beam of radiation to better fit the individual contours of a women’s breast while avoiding dose to adjacent organs. With IMRT, the radiation dose to the breast is more uniformly distributed throughout the breast essentially minimizing “hot spots”.

Doctors at William Beaumont Hospital in Royal Oak, Mich., evaluated 172 women with early stage breast cancer as part of this study. The patients were divided into two groups; the first group (54 percent) received IMRT, while the second group (46 percent) received conventional wedged-based radiation and served as the control group for the study.

Researchers specifically looked for changes in the breast directly associated with radiation therapy. They evaluated the instances of dermatitis (reddened or itchy skin), breast edema (swelling) and hyperpigmentation

The American Society for Therapeutic Radiology and Oncology, Inc.
8280 Willow Oaks Corporate Drive * Suite 500 * Fairfax * VA * 22031
phone 703-502-1550 * fax 703-502-7852 * web www.astro.org

(changes in skin color) on the breast, and the correlation between these side effects and the type of radiation treatment given.

Overall, women who received IMRT reported significantly fewer breast-related side effects compared to the women who received traditional radiation therapy. Of the women who received IMRT, less than half (41 percent) had notable reddened or itchy skin, as compared to 85 percent of women receiving conventional radiation. Only one percent of the IMRT group had breast swelling compared to the 28 percent affected in the other group. Changes in skin color were experienced in five percent of the IMRT group, where 50 percent of the women in the conventional group saw hyperpigmentation. Pain was equally attributed in both groups with eight percent of the women in both groups encountering pain as a result of the treatment.

“Earlier studies have demonstrated the benefits and importance of radiation therapy in the treatment of many women with breast cancer. It is exciting that we are now conducting studies with the goal of helping to make these treatments easier and more comfortable for women. This study, along with other recent data presented by our colleagues, demonstrates that improving dose homogeneity within the breast with IMRT results in significantly fewer side effects for women undergoing radiation therapy for early stage breast cancer,” said Asif Harsolia, M.D., lead author on the study and a radiation oncologist with The Permanente Medical Group in Santa Clara, Calif. The study was conducted while Dr. Harsolia was a resident at William Beaumont Hospital in Royal Oak, Mich.

For more information about breast cancer treatment options, please visit www.rtanswers.org. To arrange an interview with Dr. Harsolia or for a copy of the study, please contact Julie Barden at 1-800-962-7876 or julieb@astro.org.

ASTRO is the largest radiation oncology society in the world, with nearly 9,000 members who specialize in treating patients with radiation therapies. As the leading organization in radiation oncology, biology and physics, the Society is dedicated to improving patient care through education, clinical practice, advancement of science and advocacy.

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