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MammoSite® 5-Day Targeted Radiation Therapy: Moving Breast Cancer Treatment Forward

An estimated 180,510 cases of invasive breast cancer are expected to occur among women in 2007 with about 63.7 percent of patients diagnosed when the disease is still in its localized stage. Thanks to earlier detection, many women now have access to newer, less invasive treatments that enable them to get back to their normal lives sooner.

The detection of tumors in the early stage has allowed a growing number of breast cancer patients to opt for breast conservation therapy (BCT), which involves tumor excision via lumpectomy, followed by radiation therapy to reduce the likelihood of recurrence. According to the National Institutes of Health, breast conserving surgery plus radiotherapy is preferable to total mastectomy because it provides survival equivalence while preserving the breast. However, not all women who are eligible for BCT are taking advantage of this development and its benefits. For example:

- More than 40 percent of patients with early stage breast cancer still choose to have a mastectomy despite comparable long-term recurrence and survival rates. Among their concerns about BCT is the time and travel burden associated with 5-7 weeks of radiation.
- Close to 20 percent of patients who chose lumpectomy for their early stage breast cancer don't receive the recommended radiation treatment afterward. In fact, the chance of a patient receiving radiation after their lumpectomy decreases 3 percent for every 5-mile increase in distance from a radiation treatment facility. Omission of radiotherapy is associated with a threefold increase of breast tumor recurrence.

For some patients, the conventional radiation regimen of daily radiation treatments for 5-7 consecutive weeks can be an obstacle to overcome. MammoSite (TRT: Targeted Radiation Therapy) makes it easier for more women to consider the choice of lumpectomy and provides physicians with an important tool for the practice of breast conservation therapy. MammoSite TRT delivers targeted radiation therapy directly to the area where cancer is most likely to recur. This minimizes radiation exposure to surrounding healthy tissue and organs including the rest of the breast, skin, ribs, lungs and heart.

During the lumpectomy procedure or shortly thereafter, a deflated MammoSite balloon is placed inside the tumor resection cavity. The applicator shaft, a tube connected to the balloon, remains outside the breast. Once in place, the balloon is inflated with saline to fill the cavity, the catheter site is dressed, and the patient may go home. The balloon remains inflated for the entire time that the patient is receiving radiation therapy. The patient returns to the hospital for treatment on an outpatient basis where a radioactive "seed" is inserted within the inflated balloon, beginning a 5-day sequence of treatments. No source of radiation remains in the patient's body between treatments or after the final procedure. When the therapy is concluded, the MammoSite balloon is deflated and removed.

The U.S. Food and Drug Administration (FDA) cleared the MammoSite Radiation Therapy System in May 2002, and since that time, MammoSite TRT has been used to treat more than 32,000 breast cancer patients.

Five-year follow-up data from the initial clinical trial demonstrated:

- No local recurrences.
- 82% of patients had good/excellent cosmetic results.
- 100% of patients would recommend MammoSite to a friend or family member.
- 100% of patients said they would use MammoSite therapy if they had to do it over.

Did you know — anti-estrogen therapy includes many drugs aside from Tamoxifen?

- **Anastrozole** - An anticancer drug that is used to decrease estrogen production and suppress the growth of tumors that need estrogen to grow. It belongs to the family of drugs called non-steroidal aromatase inhibitors.
- **Aromatase Inhibitor** - A drug that prevents the formation of estradiol, female hormone, by interfering with an aromatase enzyme. Aromatase inhibitors are used as a type of hormone therapy for postmenopausal women who have hormone-dependent breast cancer.
- **Exemestane** - A drug used to treat advanced breast cancer and to prevent recurrent breast cancer in postmenopausal women who have already been treated with Tamoxifen. Exemestane causes a decrease in the amount of estrogen made by the body. It belongs to the family of drugs called aromatase inhibitors. Also called Aromasin.
- **Letrozole** - A drug used to treat advanced breast cancer in postmenopausal women. Letrozole causes a decrease in the amount of estrogen made by the body. It is a type of aromatase inhibitor. Also called Femara.

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