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Breast cancer treatment procedure gives women more options

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A new minimally invasive approach to partial breast irradiation provides another treatment option for women with breast cancer. The researchers presented their findings today at the annual meeting of the Radiological Society of North America.

“Women with breast cancer have many serious decisions to make in a short amount of time, including decisions regarding radiation therapy,” said Lora D. Barke, D.O., assistant professor at Feinberg School of Medicine, Northwestern University and Northwestern Memorial Hospital in Chicago. “This procedure, which uses ultrasound to precisely guide balloon catheter placement to the lumpectomy site for partial breast irradiation treatment, removes one weighty decision women must make before surgery.”

This is the first study to assess the use of ultrasound to guide the placement of the balloon catheter before partial breast irradiation therapy with brachytherapy.

In treatment with breast brachytherapy, the cancerous breast lump is surgically excised, and radiation is directed only to the portion of the breast surrounding the lumpectomy site. This approach maintains the likelihood of destroying the tumor but reduces the risk of damaging healthy tissue far from the tumor site. Since the target is smaller, brachytherapy allows for a shorter treatment regime—averaging five to seven days, compared to conventional whole-breast, external beam radiation, which may take six to seven weeks.

Balloon catheters used to deliver radiation to the affected area with brachytherapy are sometimes placed during surgery, or a surgical incision is reopened to insert the catheter. Often the catheter is placed unnecessarily, because later findings reveal that localized radiation is not appropriate or the breast tissue overlying the balloon is too thin.

“Our research shows that immediate placement of the balloon catheter is unnecessary and may add to cost. Radiologists can wait until receiving the final pathology, and then safely and efficiently insert the catheter with ultrasound guidance immediately before the patient begins brachytherapy,” Dr. Barke explained. “This allows time to determine if brachytherapy is appropriate for the patient and allows the patient and physician to consider and weigh the benefits of various treatment options,” she said.

The researchers studied ultrasound guidance of balloon catheter placement into the lumpectomy cavities of 75 new patients with early-stage breast cancer seven to 47 days after their lumpectomies. Patients were initially screened to assure an adequate surgical cavity size and skin thickness over the balloon. After successful insertion of the catheter, patients received twice-a-day brachytherapy treatments for one week.

The investigators concluded that ultrasound-guided placement of partial breast irradiation balloon catheters is safe, efficient and minimally invasive. No immediate complications occurred at insertion. One balloon ruptured and had to be replaced. Insertion of the catheter with local anesthesia took less than five minutes. The total procedure, including preparation time, averaged 25 minutes.

Source: Radiological Society of North America

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