With Vioxx Gone, What is the Future for Chemoprevention with COX-2 Agents?

The Demise of the Institute for Cancer Prevention
Closes Suddenly, Declaring Bankruptcy; Law Enforcement Agencies Now Investigating

Serena Stockwell
Editor

Multiple Myeloma: Promising Advances Target Both Tumor Cells & Bone Marrow Microenvironment

Also: Agents That Overcome Conventional Drug Resistance, New Approaches to Stem Cell Transplantation

Technology & Approaches to Radiotherapy
(1) Breast Cancer: Combining Radiotherapy & Tamoxifen Makes Recurrence Less Likely; (2) Lung Cancer: Radiation Before or After Chemo & Surgery Both Effective; (3) Some Children with Hodgkin's Disease Can Safely Skip Radiation; (4) Head & Neck Cancer: Hormone Therapy Fails to Cure Anemia; (5) Obese Women with Early-Stage Breast Cancer More Likely to Die than Women of Normal Weight

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COX-2

Wilms' Tumor: Shorter Course of Chemotherapy Just as Beneficial as Current Standard of 18 Weeks
Breast Conservation with Brachytherapy & Thermal Ablation Improving
New Latina Resource from Living Beyond Breast Cancer

Celebra
om el Mañana:

Anual Meeting

RO
and that women allow alternative treatment that is effective without disfigurement, said Steven A. Harms, MD, Professor of Radiology and Director of Imaging Research at the University of Arkansas for Medical Sciences.

"About half of breast cancers detected could potentially be treated with this method because they're small."

Two important emerging technologies, high-quality breast MRI and minimally invasive thermal ablation therapy, which includes laser, radiofrequency, and thermal techniques, could prove a powerful combination in detection and treatment of breast cancer without disfigurement, he said.

Each modality, whether radiofrequency, laser or cryotherapy, appears to stack up well with the others, noted John P. McGahan, MD, Professor of Diagnostic Radiology and of Surgery at the University of California, Davis.

With current technology radiofrequency tends to create a larger lesion and coagulates a bigger tumor than laser.

With a 17-gauge radiofrequency needle, practitioners can treat an area of 25 cm. In contrast, lasers tend to create a smaller area of necrosis and may require multiple treatments. They may also have a larger learning curve compared with radiofrequency, Dr. McGahan said.

Regardless of the therapy, it remains to be seen how best to follow up these thermal ablation treatments, whether MRI with contrast or mammography.

Effective, Outpatient, Minimal Discomfort, Good Cosmetic Result

Dr. Harms believes women will begin to demand thermal ablation because it's an effective outpatient procedure with minimal discomfort that delivers a good cosmetic result.

He and his colleagues have performed more than 50 laser thermal ablations on patients with breast cancer followed by traditional surgery. Serial section magnetic resonance images and pathological studies of the breasts indicated that the procedure successfully destroyed all of the cancerous cells.

A high-contrast, high-resolution MRI such as Rotating Delivery of Excitation Off-resonance (RODEO) is essential for defining the extent of the cancer and its margins and excluding it from the rest of the breast, Dr. Harms emphasized.

A few days after treatment, the patient can look at herself in the mirror and see that her breast looks as it did before therapy. Patients recover quickly, and most resume normal activities the next day.

As a result, his institution plans to offer thermal ablation as a treatment for solitary small tumors 1.5 cm or smaller. Following the procedure, patients typically receive radiation therapy and/or chemotherapy, just as they would following surgical treatment of breast cancer.

Dr. McGahan and his colleagues are evaluating radiofrequency treatment of lesions up to 1.5 cm and are achieving 100% necrosis. Physicians are following up treatment with resection to determine the effectiveness of the therapy.
RSNA Media Briefing

Breast Conservation with Brachytherapy & Thermal Ablation Improving

By Heather Lindsey

NEW YORK CITY—Brachytherapy and thermal ablation techniques may offer women with small breast tumors an effective treatment option that avoids disfigurement or unnecessary mastectomies, according to speakers here at a Radiologic Society of North America (RSNA) media briefing.

Many women are unnecessarily undergoing mastectomies because they want to avoid the six to seven weeks of conventional external-beam radiation therapy associated with breast-conserving therapy, noted Robert R. Kuske, MD, a radiation oncologist with Arizona Oncology Services.

"Women are eligible for breast brachytherapy if their tumor size is 3 cm or smaller, as long as the cells do not reach the surgical margin. Up to three lymph nodes under the arm may be involved. However, if patients are needle biopsied, they won't do well with this therapy, Dr. Kuske said. It is an invasive technique, but still, the goal is for it to be painless and bloodless.

"Most of the time, we achieve that," he said, adding that pock marks remain for up six months and usually completely go away.

Dr. Kuske and his colleagues have been conducting clinical trials of brachytherapy for the last 13 years and have found ways to make the treatment more accessible in the oncology clinic.

"Brachytherapy is being done increasingly around the country," Dr. Keisch said, noting that practitioners at his institution in Miami Beach most often use the MammSite device, which received FDA approval in 2002.

Multicatheter-based implants have, to date, generated outstanding clinical results, but the practice has not become widespread because the treatment is technically challenging, he explained.

"Generally, radiation oncologists are too busy to learn the multicatheter implantation or do not want to go into the operating room for an invasive technique," he said. "This has slowed down the whole process of acceptance."

The recurrence rates for standard external-beam radiation are also about 1% per year, Dr. Kuske noted.

"MammSite is a much simpler method of partial breast irradiation," Dr. Keisch said. The recurrence rate to date is no worse than with whole breast irradiation, according to data at five years follow-up.

Dr. Kuske has led three trials investigating brachytherapy, which have shown low toxicity and cancer recurrence rates of only 3% to 4%.

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Robert R. Kuske, MD, has been conducting clinical trials of brachytherapy for the last 13 years and has found ways to make the treatment more accessible in the oncology clinic. For example, image-guided therapy and using a single catheter balloon or MammSite have helped to ensure that radiation oncologists across the country can use the technique, he said.

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"MammSite is a much simpler method of partial breast irradiation," Dr. Keisch said. The recurrence rate to date is no worse than with whole breast irradiation, according to data at five years follow-up.

Dr. Kuske has led three trials investigating brachytherapy, which have shown low toxicity and cancer recurrence rates of only 3% to 4%.

For example, a Phase II study presented at this year's ASCO Annual Meeting found a less than 1% per year local failure rate in 99 patients treated with brachytherapy after a median follow-up of 3.7 years.

The actuarial four-year breast and nodal recurrence rate was 3%. Distinct metastasis occurred in six patients, for an actuarial four-year rate of 6%.

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"Brachytherapy is being done increasingly around the country," Dr. Keisch said, noting that practitioners at his institution in Miami Beach most often use the MammSite device, which received FDA approval in 2002.

Multicatheter-based implants have, to date, generated outstanding clinical results, but the practice has not become widespread because the treatment is technically challenging, he explained.

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HIFU

High-intensity focused ultrasound (HIFU) is another noninvasive treatment that may prove to be promising, Dr. McGahan noted. This therapy induces complete coagulative necrosis of a tumor at a depth through the intact skin.

In a study last year in British Journal of Cancer (2003;89:2227-2233) researchers in China randomized 48 women with biopsy-proven breast cancer to HIFU followed by modified radical mastectomy and to a control group of modified radical mastectomy alone.

No severe side effects occurred in the HIFU-treated patients. "There was one skin burn out of 23 patients," Dr. McGahan noted. Pathologic findings revealed that HIFU-treated tumor cells underwent complete coagulative necrosis, and tumor vascular vessels were severely damaged.

"Patients in this trial did very well," he said.

He added, though, that regardless of the therapy, it remains to be seen how best to follow up these thermal ablation treatments, whether MRI with contrast or mammography.

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