Adding MRI Benefits High-Risk Women

BY KATE JOHNSON
Montreal Bureau

CHICAGO — Magnetic resonance imaging detects more breast cancers than mammography in high-risk women, according to the first international study comparing the two screening methods.

"Our results support the benefit of MRI screening, not as a replacement, but as a complement to mammography in high-risk women," said Constance D. Lehman, M.D., lead investigator of the International Breast Magnetic Resonance Consortium Trial. She presented the findings at the annual meeting of the Radiological Society of North America.

The study included 367 women aged 25 and older, with a mean age of 45, from 13 sites. The women who participated were considered to be at high risk for breast cancer, with at least a 25% lifetime risk.

The participants underwent a clinical breast exam, mammography, and MRI, within a 90-day period.

In 90% of the study population, the mammogram and MRI findings agreed.

A total of 329 women had negative findings on both tests, and 1 woman had positive findings on both tests, resulting in a biopsy and detection of a cancer, Dr. Lehman said.

However, 8% (30 women) had negative mammograms but positive findings on MRI. Of these women, 23 had biopsies, and 3 cancers were detected.

In addition, 2% (seven women) had positive mammograms but negative MRI findings. Of these, three had biopsies, and no cancers were detected.

A total of four cancers were detected in the study cohort—three infiltrating ductal carcinomas and one ductal carcinoma in situ—for a rate of 1.1% and a benign biopsy rate of 5%.

Although MRI alone had a diagnostic yield of 1.1%, meaning it could detect 11 cancers in 1,000 high-risk women, the diagnostic yield of mammography alone was 0.3%, meaning it could detect only 3 cancers in this same group.

Although three of the four cancers were in women who had negative mammograms but positive MRIs, this does not weaken the value of mammograms, Dr. Lehman said.

"We're trying to encourage physicians not to trust a negative mammogram and thus rule out the need for a biopsy in this population," she said at a press briefing.

"But we are also not at the point where a negative MRI can overrule a positive mammogram.

"If we see calcification on a mammogram, there is a significant risk of cancer even when the MRI is negative," said Dr. Lehman, director of breast imaging at the University of Washington, Seattle.

"It is the radiologist's role to recommend or rule out a biopsy. We are trying to encourage communication with radiologists to this effect," Dr. Lehman commented.

There is no evidence that the benefits of combining MRI and mammography apply to the general population, in whom mammography performs well, she said.

But mammography is not optimal in younger women, who tend to have dense breast tissue—and high-risk women need to begin regular screening when they are young. ■

Calcium, Vitamin D Intake Often Dismal in Breast Cancer Patients

BY BRUCE JANCIN
Denver Bureau

SAN ANTONIO — Inadequate calcium and vitamin D intake—and outright deficiencies—are even more common among breast cancer patients than in the general population, according to studies presented at the annual breast cancer symposium sponsored by the Cancer Therapy and Research Center.

This is particularly unwelcome because women with a history of breast cancer are at elevated risk for skeletal problems due to treatments that induce early menopause. The breast cancer population is also seeing rapidly rising adjuvant use of aromatase inhibitors, a class of drugs that can accelerate bone mineral loss.

The most disturbing finding was that only 10% of the women consumed the recommended daily minimum of 1,000 mg of calcium and 400 U of vitamin D.

Rachel S. Zinaman, a dietitian at Memorial Sloan-Kettering Cancer Center, New York City, noted that 2003 American Society of Clinical Oncology guidelines call for physicians to make screening for and treatment of osteoporosis in breast cancer patients a greater priority. She said it's time for physicians to step up and implement programs to increase breast cancer patients' awareness of the importance of calcium and vitamin D to bone health.

The increased vulnerability of breast cancer patients to calcium and vitamin D deficiencies was underscored by her retrospective chart review of 100 consecutive patients with early-stage breast cancer. The most disturbing finding was that only 10% of the women consumed the recommended daily minimum of 1,000 mg of calcium and 400 U of vitamin D. Indeed, 63% of the women had no significant dietary calcium intake at all, according to Ms. Zinaman.

That's even worse than in the United States at large. A National Institutes of Health consensus conference has concluded that 50%-60% of the older general population meets the established recommended daily intakes of calcium and vitamin D.

In a separate presentation, Marie E. Taylor, M.D., reported finding vitamin D deficiency in fully two-thirds of 233 patients with a current or past diagnosis of breast cancer who presented with a complaint of moderate to severe generalized musculoskeletal discomfort and stiffness with or without localized musculoskeletal symptoms.

The prevalence of vitamin D deficiency, as defined by a serum 25-OH vitamin D level below 30 ng/mL, varied by race. It was 57% among 162 white patients—but 91% among African Americans, said Dr. Taylor of Washington University, St. Louis.

As defined by a parathyroid hormone level in excess of 72 pg/mL, 65% of the women were hyperparathyroid.

Dr. Taylor speculated that the use of aromatase inhibitors may enhance vitamin D requirements and exacerbate a background vitamin D deficiency, resulting in the clinical symptoms of osteomalacia. She and her coinvestigators have prescribed vitamin D for the deficient women in her study cohort and are now following them to see if this leads to symptomatic improvement and better tolerance of adjuvant therapy.

The vitamin D replacement regimen they are using consists of 50,000 U of 25-OH vitamin D once weekly for 8-12 weeks, then cutting back to once every 2 weeks as maintenance therapy. This is coupled with the standard dietary recommendations for calcium and vitamin D intake via food sources and over-the-counter supplements. ■

High C-Peptide Can't Explain Hispanic Breast Ca Prognosis

BY BRUCE JANCIN
Denver Bureau

SAN ANTONIO — A high C-peptide level appears to be an independent risk factor for breast cancer recurrence and death—but that doesn't explain the relatively poor prognosis in Hispanic women with the malignancy, Richard N. Baumgartner, Ph.D., said at a breast cancer symposium sponsored by the Cancer Therapy and Research Center.

The incidence of breast cancer among Hispanic women is known to be lower than in non-Hispanic white women. Yet, once they develop the malignancy, their prognosis is markedly worse. The Health, Eating, Activity, and Lifestyle (HEAL) study is an ongoing cohort-based epidemiologic investigation being conducted in New Mexico, Los Angeles, and Seattle in an effort to understand why, explained Dr. Baumgartner of the University of New Mexico, Albuquerque.

His hypothesis was that the ethnic disparity in breast cancer outcome might be due, at least in part, to the increased prevalence of the metabolic syndrome among Hispanics. But this proved not to be the case in his analysis of 124 Hispanic and 370 non-Hispanic, white New Mexican women with invasive breast cancer participating in HEAL.

The inference is that Hispanic patients may have a different breast cancer phenotype than do non-Hispanic whites.

There were 20 cases of breast cancer recurrence or a new primary cancer and 46 deaths due to breast cancer during 5 years of follow-up; the risk of these bad outcomes was 2.03-fold greater among the Hispanic women.

In the HEAL study population, the presence of insulin resistance and central obesity—key components of the metabolic syndrome—was indeed associated with increased risk of breast cancer recurrence and mortality, but this association proved to be independent of ethnicity.

In a multivariate analysis adjusted for waist to hip ratio, percent body fat, and level of C-peptide—an accepted biomarker for hyperinsulinemia and insulin resistance—Hispanic ethnicity still remained associated with a 2.01-fold increased risk of breast cancer recurrence or death. This observation strongly suggests that the metabolic syndrome doesn't explain the ethnic difference in disease recurrence and survival, Dr. Baumgartner said.

When the multivariate model controlled for ethnicity as well as waist to hip ratio and body fat, patients in the highest quartile for C-peptide had a 2.07-fold increased risk of recurrence and death, while those in the middle two quartiles were at 67% greater risk than those in the lowest quartile.

In a larger group of 616 HEAL study participants, there were no significant differences between Hispanic and non-Hispanic white patients in terms of mammography-screening interval, how the cancer was diagnosed, number of biopsies, or family history.

The two groups didn't differ in terms of disease stage, positive lymph node count, human epidermal growth factor receptor 2 (HER-2) status, or Ki-67 expression. There were few treatment differences between the two groups. But Hispanic patients were significantly more likely to present with large hormone receptor–negative tumors.

The inference is that Hispanic patients may have a different breast cancer phenotype than non-Hispanic whites, according to Dr. Baumgartner. ■