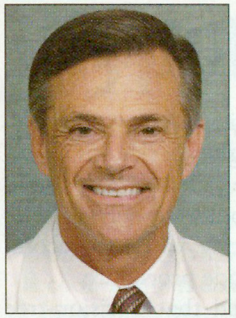

BY ALAN B. HOLLINGSWORTH, M.D., FACS

COMMENTARY

Preop Breast MRI Is Worth the Trouble

Our experience with preop breast MRI is the opposite of the viewpoints expressed in two SURGERY NEWS articles in the February 2009 edition ("Preop MRI in Breast Cancer Patients Not Beneficial," p. 12; and "Expert Argues Against Routine MRI for Breast Cancer," p. 13).

In the largest single-institution study to date, involving 603 consecutive, newly diagnosed breast cancer patients (Am. J. Surg. 2008;196:389-97), we described one of the lowest re-excision rates accomplished through any means (8.8%), a 12% *increase* in the rate of breast conservation (48% to 60%), and an even higher breast conservation rate (70%) when patients had a false-positive MRI for multicentric or contralateral disease. Additionally, our 3.7% incidence of MRI-detected contralateral cancers, 68% of which were invasive, identified tumors at the same stage or worse than the known primary in half of the cases. Conventional imaging had a sensitivity of 46% for multicentric disease and 19% for contralateral disease.

Given equal survival in the randomized controlled trials for breast conservation for invasive disease, we would not expect significant survival differences with these findings. We are monitoring a subset of patients diagnosed with ductal carcinoma in situ (DCIS) initially on the ipsilateral side, with preop MRI revealing an occult invasive cancer on the opposite side. In a recent review of short-term DCIS outcomes in 799 patients, 5.6% of patients had second events within 2.9 years of follow-up, and 69% of these were invasive (Ann. Surg. Oncol. 2008;15:244-9). This translated to a 5-year survival rate of 76% for patients with a second event, as opposed to overall survival of 97%. The conclusion was that second events following DCIS occur primarily in the opposite breast and have a negative impact on survival.

Ipsilateral radiation might minimize the impact of occult second cancers on the side of the index lesion, and systemic therapies may lessen the impact of occult contralateral disease. This may be true for whole breast radiation, but patient selection for partial breast irradiation (PBI) changes the picture. The National Surgical Adjuvant Breast and Bowel Project (NSABP) trial for PBI has loosened the indications to include younger patients, multifocal disease, ductal or lobular histology, and even positive lymph nodes. Many oncologists will be more comfortable with breast MRI as a prerequisite for PBI as these indications expand.

Which brings me to perhaps the strongest indication for preop MRI tumor mapping to reduce the number of trips to the operating room for primary surgical treatment. As critics note the minimal evidence for fewer re-excisions, especially in light of the COMICE (Comparative Effectiveness of MRI in Breast Cancer) trial, we should remember that we have no evidence to support using mammography for preop mapping. Most breast cancer patients would be treated appropriately without any imaging, but I'd anticipate multiple excisions for clear margins.

In your article, Dr. Drew's quote, "End of story" (no benefit for MRI), is unsettling. A basic tenet of good science is uncertainty, and the debate over preop MRI has only begun. Dr. Crownover implies that the cost of MRI is unacceptable given the absence of any benefit, but a 60% re-excision rate, as described in Dr. Morrow's own series, is far more expensive than preop MRI on all patients for whom an 8.8% re-excision rate follows.

Radiologists tell me that doing a breast MRI was the hardest skill they've learned. We attribute our success with MRI to a rigid program with a focus on quality assurance that I codirect with Dr. Rebecca Stough, a radiologist. Since 2003, we have reviewed all MRI outcomes in the conference setting with pathologists. Patients with additional findings on MRI were worked up by the radiologists before surgical planning, and no sites of MRI enhancement were presumed malignant through imaging alone. If an institution presumes that you can plug an MRI unit into the wall, write reports and send them to a surgeon, and get improved outcomes, your breast MRI program will add nothing to patient care. ■

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