

Younger, early breast cancer patients often undergo unnecessary staging, imaging procedures at time

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More than one third of younger, early stage breast cancer patients undergo unnecessary imaging procedures – including position emission tomography (PET), computed tomography (CT), nuclear medicine bone scans (NMBS) and tumor markers (TM)—at the time of staging and diagnosis, according to research from The University of Texas MD Anderson Cancer Center.

Presented at a poster session at the 2013 CTRC-AACR San Antonio Breast Cancer Symposium by Carlos Barcenas, M.D., assistant professor in MD Anderson's Breast Medical Oncology, the study is the first to look at the issue of over-use of staging procedures, including imaging and tumor markers in the diagnosis setting, specifically in younger, early-stage breast cancer patients.

Over-testing and unnecessary procedures extends beyond cancer care across the healthcare continuum. To help address the issue, the American Board of Internal Medicine began "Choosing Wisely®," an initiative encouraging physicians and patients to have conversations that encourage its reduction.

As part of its participation in the national campaign, last year, the American Society of Clinical Oncology (ASCO) generated a "top five list" which recommended against the use of CT, PET, TM and NMBS in the diagnosis and staging of early-stage breast cancer at low risk for

metastasis. Rather, treatment guidelines clearly state that for women with early-stage breast cancer, the proper procedures for diagnosis include mammogram, ultrasound, clinical exam and blood work, said Barcenas.

"We've known that overuse of staging procedures is a problem as well it may affect the cost-effectiveness in diagnosing women with early breast cancer," said Barcenas. "With ASCO's inclusion of this issue in its top five recommendations last year as part of its 'Choosing Wisely' campaign, this gave us the idea for the study—to investigate and understand just how pervasive the problem really is."

For the retrospective study, Barcenas and his colleagues analyzed claims from a national employer-based database of 42,651 women between 2005 and 2010 with an initial diagnosis of breast cancer. All were younger than 65 years old and had undergone a mastectomy, lumpectomy and sentinel lymph node biopsy. Patients who underwent axillary lymph node dissection were excluded from the study because this is considered a surrogate for node-positive disease. Claims for imaging and tumor markers were analyzed between the specific period of three months prior to surgery and one month post-surgery. Researchers stratified for age, geographical location, treatment and insurance coverage, HMO or PPO.

The researchers found that 37 percent of early stage [breast cancer patients](#) had at least one claim for an unnecessary staging test, with minimal change in rate of that average over the five-year period. Of note, said Barcenas, 18 percent of the woman had [tumor markers](#) performed, which is a staging procedure with no role in the non-metastatic diagnosis setting. Undergoing chemotherapy had the highest association with overuse of staging procedures, with hormone and radiation therapy also associated with overuse.

Barcenas and the team also found regional differences in overuse trends, as well a higher rate of unnecessary procedures in women with PPO insurance coverage compared to those with HMO. Also, women with [breast cancer](#) under 35 years old were at higher odds of having one of these tests, he explained. Yet when diagnosed at such a young age, this patient population is perceived by the physician to be at higher risk of metastatic and/or aggressive disease.

"While hypothesis-generating, our study is not without limitations. For example, we don't know the receptor status of the tumor, or if the patients had a more aggressive pathology, such as triple negative disease, or if they presented with specific clinical characteristics – such as back pain or an elevated blood level of a liver function test—that called for more investigation. In some instances, there will be justification for the additional imaging procedures," said Barcenas.

The researchers plan to follow this trend to see if the rate of unnecessary imaging drops with the continued dissemination of the "Choosing Wisely" campaign. They also plan well to evaluate for cost effectiveness.

Sharon Giordano, M.D., professor and chair, Health Services Research at MD Anderson, thinks the findings clearly support the need for the ASCO recommendations. She said the research shed some light on the issue of over-use and over-care and offers validation to physicians so that they have permission not to order unnecessary tests.

"Often, doctors think they're not being good to their patients if they don't do all they can. Yet there's been a shift in focus to doing what matters for the patient and what's proven to improve outcomes, rather than testing for the sake of testing," said Giordano, also professor in Breast Medical Oncology and the study's senior author. "Ultimately, our goal is to bring the best care and value care to our patients."

Provided by University of Texas M. D. Anderson Cancer Center

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