Medical Xpress

Use of costly breast cancer therapy strongly influenced by reimbursement policy

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What Medicare would pay for and where a radiation oncologist practiced were two factors that strongly influenced the choice of intensity-modulated radiation therapy (IMRT) for treating breast cancer, according to an article published April 29 online in *the Journal of the National Cancer Institute.* The use of IMRT and the cost of radiation therapy increased sharply over the period of the study.

IMRT is a radiation delivery technique that modulates the radiation beams to conform to the shape of the tumor or tumor bed in an attempt to maximize the dose of radiation to the tumor while minimizing the dose to adjacent normal tissues. Compared to conventional, two- or three-dimensional radiation therapy, IMRT may reduce acute skin toxicity and improve cosmetic outcomes for women undergoing breast conservation therapy.

But there are simpler approaches to three-dimensional treatment that may provide the same benefits at lower cost. It is thus controversial whether such treatments justify billing Medicare for IMRT.

To look at clinical, demographic, and other factors associated with billing for IMRT in Medicare beneficiaries with breast cancer, Benjamin D. Smith, M.D., of the M. D. Anderson Cancer Center in Houston, Texas, and colleagues used Medicare data for 26,163 women with localized breast cancer who had undergone surgery and radiation therapy from 2001 through 2005.

They found that Medicare billing for IMRT increased more than 10-fold (increasing from 0.9% to 11.2% of the diagnosed patients) in that period. The average cost of radiation within the first year of diagnosis was $7,179 without IMRT and $15,230 with IMRT.

In regions of the country where local Medicare carriers covered IMRT, billing for this treatment was more than five times higher than in regions where it was not covered. Furthermore, IMRT billing was more frequent for patients treated by radiation oncologists in freestanding radiation centers (7.6% had IMRT) compared to those treated in hospital-based outpatient clinics (5.4% had IMRT).

In their discussion, the authors note that there are two ways to achieve intensity modulation of the radiation beam, one called field-in-field forward planning and one called inverse planning. The second is more expensive, requiring more physician and treatment planning time. Most Medicare carriers require inverse planning to reimburse for IMRT, although the two approaches likely have similar outcomes for treatment of the breast only, according to the authors.

They write that their data "suggest that with respect to breast radiation therapy, much of the variation in cost can be directly attributed to inconsistent treatment definitions and reimbursement rates authorized by Medicare and its intermediaries."

In an accompanying editorial, Lisa A. Kachnic, M.D., of Boston University School of Medicine, and Simon N. Powell, M.D., Ph.D., of Memorial Sloan-Kettering Cancer Center, New York, note that the evidence supporting the routine use of inverse-planned IMRT for patients requiring breast only treatment is weak. They suggest that the true value of inverse- planned IMRT will most likely be for patients with complex anatomy or those with more advanced breast cancer who require comprehensive lymph node treatment such as radiation to the

internal mammary nodal chain. IMRT may also help to protect the underlying lung and heart, they say. However large randomized trials are needed to determine whether it actually has these benefits.

In the meantime, the editorialists write, this study "appears to confirm the suspicion of many, both within and outside of the healthcare industry, that medical decision making is too heavily influenced by reimbursement rather than medical necessity."

Provided by Journal of the National Cancer Institute

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