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Hypofractionated Whole Breast Irradiation Underused

According to a study published in *JAMA,* most breast cancer patients do not receive radiation treatment that is shorter in duration and less costly, despite guidelines endorsing their use. The study was released at the San Antonio Breast Cancer Symposium (TX, USA).

Breast cancer accounts for the largest portion of national expenditures on cancer care. It is estimated that health care costs associated with breast cancer will reach approximately $158 billion in 2020.

The most common treatment for early-stage breast cancer is breast conservation therapy. Whole breast irradiation (WBI) is recommended for most women who have gone through breast conserving surgery, as it reduces local recurrence and improves the patient's overall survival rate.

Conventional WBI comprises five to seven weeks of daily radiation fractions, while hypofractionated WBI is a shorter duration treatment alternative that comprises fewer but higher-dose fractions. Hypofractionated WBI is delivered over three weeks, and clinical evidence to date indicates its effectiveness. Expert guidelines from 2011 also endorse the use of hypofractionated WBI for selected patients with early-stage breast cancer.

“Hypofractionated WBI increases convenience, reduces treatment burden, and lowers health care costs while offering similar cancer control and cosmesis [cosmetic outcomes] to conventional WBI. Furthermore, patients prefer shorter radiation treatment regimens,” the authors write.

The study was conducted by Justin E. Bekelman, MD, and colleagues at the University of Pennsylvania Perelman School of Medicine in Philadelphia. The study team examined the usage and costs of hypofractionated WBI between 2008 and 2013 by reviewing the administrative claims data from 14 commercial healthcare plans covering 7.4 percent of adult women in the US in 2013.

They classified patients with incident early-stage breast cancer treated with lumpectomy and WBI from 2008 and 2013 into two groups. The hypofractionation-endorsed cohort (n = 8,924) included patients 50 years of age or older without prior chemotherapy or axillary lymph node involvement. The hypofractionation-permitted cohort (n = 6,719) included patients younger than 50 years or those with prior chemotherapy or axillary lymph node involvement. This analysis was based on a comparison of hypofractionated WBI for three to five weeks and conventional WBI for five to seven weeks.

The study findings show that there was an increase in hypofractionated WBI from 10.6 percent in 2008 to 34.5 percent in 2013 in the hypofractionation-endorsed group, and from 8.1 percent in 2008 to 21.2 percent in 2013 in the hypofractionation-permitted group. Total healthcare expenditures in the first year after diagnosis were $28,747 for hypofractionated and $31,641 for conventional WBI in the hypofractionation-endorsed group, and $64,273 for hypofractionated and $72,860 for conventional WBI in the hypofractionation-permitted group. As per the results of this study, the adjusted average total one-year patient out-of-pocket expenses were not significantly different between the two groups.

The study authors believe that while hypofractionated and conventional WBI have been found to be equally effective for in-breast tumor control and are also comparable in terms of long-term side effects, hypofractionated WBI is not used very often because the 2011 practice guidelines stop short of recommending its use in place of conventional WBI. That is probably why the treatment alternative has had a slower uptake in the US as compared to other countries.

Source: JAMA

Image Credit: Wikimedia Commons

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