BREAST CANCER WHOLE IS BETTER THAN THE PART

In women over the age of 65, the use of brachytherapy—delivery of radiation as an implanted source—following lumpectomy has increased substantially. This increase is because of the advantages of irradiating less breast tissue compared with whole-breast irradiation (WBI), as well as the reduced treatment timeframe compared with conventional radiotherapy. Despite the widespread adoption of brachytherapy in the USA in older women, concerns have been raised about its ability to fully irradiate the tumour, as well as the possibility of an excess risk of postoperative complications.

Limited data comparing brachytherapy and WBI are available, and results from a long-term randomized trial will not report for several years. In the interim, Benjamin Smith and coauthors decided to compare these two techniques in a comprehensive cohort of women aged 67 years or older. Smith explains, “we wanted to see if all radiation is created equal. Specifically, we evaluated whether brachytherapy is more or less effective than WBI in preventing subsequent mastectomy.”

The retrospective, population-based study assessed 92,735 women with invasive breast cancer. Smith outlines the key results, “the most significant findings were that brachytherapy was associated with a twofold increased risk of subsequent mastectomy, and increased complications including postoperative infectious and non-infectious complications, as well as breast pain and fat necrosis compared with WBI.” Importantly, brachytherapy was associated with a worse long-term breast preservation and increased complications but had no survival advantage. Smith notes, “these results are very important because there are very few comparative studies evaluating brachytherapy, as it was used in the USA between 2003–2007 versus regular WBI.”

Implications from this study are that caution is needed when considering the use of brachytherapy, particularly outside of a clinical trial. Smith highlights his aims for the future, “we plan to take this work forward by evaluating brachytherapy in other datasets and will try to identify clinical situations in which brachytherapy may be more comparable to WBI.”

Lisa Hutchinson

Original article Smith, G. L. *et al.* Association between treatment with brachytherapy vs whole-breast irradiation and subsequent mastectomy, complications, and survival among older women with invasive breast cancer. *JAMA* 307, 1827–1837 (2012).