BrachyBytes

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10-Year APBI Data: Equivalent Outcomes, Better Cosmesis

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As acceptance of accelerated partial breast irradiation (APBI) continues to grow, so does the body of evidence supporting its equivalence to whole breast irradiation (WBI). Most recently, researchers from Hungary published 10-year data from a randomized clinical trial comparing the outcomes of breast conservation therapy (BCT) with APBI versus conventional WBI. Not only did the researchers observe no adverse effect on local control or survival, but they also reported significantly better cosmetic results with the use of APBI.

Radiation oncologist Robert Hong, MD, of Virginia Hospital Center in Arlington, Va., discusses the results of the Hungarian trial, how it compares to his own clinical experience with APBI, and what the data means for the future of early-stage breast cancer treatment.

What are the key points physicians should take away from the Hungarian trial?

The bottom line is that when comparing whole breast radiation and partial breast radiation, the outcomes in terms of local control were not significantly different. The risk of local failure after APBI is very similar to whole breast. This study is significant in that it clearly shows we've moved beyond the debate of whether or not APBI is effective. The data is convincing that APBI as a technique, regardless of how it's delivered, is equivalent to whole breast in preventing recurrences, and we know it's an appropriate treatment for a certain population of patients.

The researchers noted a striking difference in cosmetic outcomes in favor of APBI. Does this observation match your clinical experience?

I've treated nearly 500 women with intracavitary high-dose rate breast brachytherapy. I've found that partial breast radiation delivered with brachytherapy produces superior cosmetic outcomes compared to WBI, which I attribute mainly to the ability to avoid excessive dose to the skin.

However, the recently published results of the RAPID trial demonstrate the importance of selecting the appropriate APBI technique when it comes to cosmetic results. The RAPID trial, which compared 3D conformal APBI to WBI, shows that women who received APBI with external beam had more severe radiation toxicity and worse cosmesis. The data is pretty convincing that when APBI is delivered with a 3D conformal approach, cosmetic outcomes are inferior to whole breast. But when looking specifically at brachytherapy techniques, we find the opposite to be true.

Personally, I'm going to shy away from external beam techniques because of the data from the RAPID trial. I prefer brachytherapy, specifically an intracavitary technique using SAVI. I believe dosimetry is of paramount importance, and SAVI allows more flexibility in dose modulation. I'm able to treat thinner skin bridges and smaller distances. With the SAVI 6-1Mini, I can treat women with smaller breast sizes who otherwise technically would have a hard time accommodating a balloon catheter. To me, it's the most versatile. In terms of dose modulation, SAVI is the most similar to interstitial multi-catheter brachytherapy.

What implications does the Hungarian trial have for the future of APBI?

This is an important study. It is mature data and the results are statistically significant. It adds to a body of data that is constantly maturing, and it provides further insight into which patients are good candidates for APBI. Like other APBI studies, it also validates that when it comes to early-stage breast cancer, the entire breast is not at risk and does not necessarily need to be treated. Then depending on multiple patient, tumor (e.g. margins) and technical factors, you choose which technique and modality is best for the individual patient.

How do you respond to physicians who still consider APBI to be "investigational"?

Based on the available data, it's clear there is a population of women who are perfectly suitable for partial breast radiation. It may still be "investigational" for a certain subgroup of high-risk patients, but it's completely accepted and appropriate for another group of patients. It's up to each physician to determine whether an individual patient fits into that population. I use a variety of factors to establish a patient's eligibility—tumor size, margin status, nodal involvement, age, estrogen receptor status.

In this era of guidelines, I think we fall into a trap of limiting our ability to critically assess an individual's risk. It's a wonderful time to practice medicine where we're able to individualize treatment options and define a group of women who can benefit from this targeted radiation.

Do you think APBI is underutilized? What will be required before more physicians offer it as a treatment option?

Yes, I think it is underutilized. APBI is a perfectly suitable option for many women who undergo breast conserving surgery, but many of these women are not being offered this as a choice. Unfortunately, I don't think there's a simple explanation for why this is happening. Certainly, a comfort level with the available data is part of it. The forthcoming results from the NSABP B-39 trial should make a meaningful impact into clarity, at least in the U.S.

Part of it may also be because the majority of APBI is being delivered through external beam techniques. Now with the data showing that partial breast external beam techniques result in poorer cosmetic outcomes, I fear that's going to have an adverse impact on utilization of APBI as a whole. But my hope is that it doesn't negatively affect those women who are being treated effectively with brachytherapy techniques, with equivalent control rates and superior cosmetic outcomes.

Dr. Hong is a board-certified radiation oncologist at the Virginia Hospital Center in Arlington, Virginia.

A Surgeon's Perspective

Stephanie Akbari, MD, FACS, medical director of the Reinsch Pierce Family Center for Breast Health at Virginia Hospital Center, weighs in with a breast surgeon's perspective on the impact of the Hungarian trial.

"This was a very a large study, and with 10-year follow up, I don't think APBI can be considered 'experimental' anymore, even by the strongest critics. I hope this information will encourage more physicians to offer APBI as a valid choice for their patients," says Dr. Akbari. "With APBI, a patient's needs can be better tailored to their disease process without affecting the outcome, so I hope this data will help increase the number of women who have access to this treatment."

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