APBI with Brachytherapy Remains a Key Therapy for Patients with Early Stage Breast Cancer

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Do you believe that APBI with brachytherapy is relevant in 2017?

I do believe that brachytherapy based APBI remains not only relevant but a major consideration for appropriately selected patients. Brachytherapy offers the ability for patients to complete treatment in one week or less, which is still significantly shorter than hypo-fractionated whole breast irradiation. Additionally, the smaller target volume allows for less dose to the remaining breast tissue. Compared with other partial breast options, brachytherapy represents the technique with the longest follow-up and dosimetrically offers several advantages.

Have you seen a change in physician practice patterns for APBI since the ASTRO consensus change in late 2016?

I have not personally seen a substantial changes in practice patterns though it has only been a few months. I would expect use of APBI to increase based on the new guidelines which support treating patients 50 years or older and allows for low-risk DCIS in the suitable category. Additionally, with the publication of the GEC-ESTRO and Florence trials and the presentation of the IMPORT LOW trial, there is increased interest in partial breast approaches.

What clinical studies do you feel are the most compelling for breast brachytherapy that physicians should review?

The most compelling data comes from the Hungarian randomized trial which provides mature follow-up as well as the GEC-ESTRO randomized trial. Additionally, the ASBrS Registry trial has provided 5 year outcomes and toxicity profiles

The key take away from these studies are 1) brachytherapy based APBI is associated with comparable rates of local control and survival as compared to whole breast irradiation, 2) brachytherapy based APBI offers the potential for a reduction in toxicity
and improved cosmesis compared to whole breast irradiation, and 3) applicator based APBI is a safe and effective treatment option for patients.

**Are there any studies in progress we should be watching and what is its significance?**

I think the most important study is RTOG 0413/NSABP B39 which has completed accrual and will provide clinical outcomes and toxicity profiles compared to whole breast irradiation for multiple APBI techniques. Additionally, a study in progress is the TRIUMPH trial which looks to complete brachytherapy based APBI in 2 days (3 fractions) offering the potential to further shorten treatment duration without compromising local control or toxicity.

**Now that a sizable body of solid clinical evidence exists to support the use of accelerated treatment with brachytherapy, what does the future hold?**

I think the future is to continue to offer and evaluate the outcomes with brachytherapy based APBI using novel regimens that reduce treatment duration while providing patients and clinicians with a technique that has long-term outcomes, dosimetry, image guidance and has not been shown to have higher rates of local recurrence compared to whole breast irradiation.