Surgical clips are the most common method used to demonstrate the area of interest for the radiation oncologist. However, clips provide less than optimal targeting for radiation oncologists and/or patients because of movement of treatment volumes. Tumor volumes are accidentally located at the margin of the excision cavity, and may not be visible from different angles that might be taken in patient position. To avoid under-treatment, it is essential to limit treatment planning to site using the excision cavity as a surrogate for the true target volume. This can require large, expensive radiation treatment volumes covering surrounding tissues. However, the excision cavity can lead to unnecessary radiation exposure and minimising complications. Some reports note clips as up to 30% of patients report suboptimal outcomes after BCS. The use of marker clips to re-arrange oncoplastic tissue can help improve these outcomes. It introduces some degree of volume overestimation of treatment volumes. Clips are randomly attached to the margin of the excision cavity. It is a widely used method for marking the radiation target site as it is visible on mammography, CT, MR, and PET scans. This results in better treatment planning, improved targeting for radiation oncologists and the overall impact on cosmesis as reported by surgeons and patients. However, the surgical techniques utilized to perform oncoplastic partial breast reconstruction often include the natural tissue (skin, breast, pectoralis major muscle) and sometimes interstitial seroma fluid. The following interim report from a US based clinical registry examines visibility of the device, its utility as judged by radiation oncologists and the overall impact on cosmesis as reported by surgeons and patients. Additionally, smaller treatment volumes could provide increased cosmesis, to the reduction of post-excision scarring.

Methods:Patients and Physicisians Report Good to Excellent Cosmetic Outcomes


Background: Despite the growing use of breast conservation surgery, there is no universal agreement on optimal methods for detecting breast tumor margins post-surgery. The use of clips provides less than optimal targeting for radiation oncologists and/or patients because of movement of treatment volumes. Treatment volumes are accidentally located at the margin of the excision cavity, and may not be visible from different angles that might be taken in patient position. To avoid under-treatment, it is essential to limit treatment planning to site using the excision cavity as a surrogate for the true target volume. This can require large, expensive radiation treatment volumes covering surrounding tissues. However, the excision cavity can lead to unnecessary radiation exposure and minimising complications. Some reports note clips as up to 30% of patients report suboptimal outcomes after BCS. The use of marker clips to re-arrange oncoplastic tissue can help improve these outcomes. It introduces some degree of volume overestimation of treatment volumes. Clips are randomly attached to the margin of the excision cavity. It is a widely used method for marking the radiation target site as it is visible on mammography, CT, MR, and PET scans. This results in better treatment planning, improved targeting for radiation oncologists and the overall impact on cosmesis as reported by surgeons and patients. Additionally, smaller treatment volumes could provide increased cosmesis, to the reduction of post-excision scarring.

Results: A system of literature review was performed with the following key search terms: “3D marker”, “oncoplastic”, “partial breast reconstruction”, “radiation therapy”, “targeting”, “patient satisfaction”, “cosmesis”, “surgeons” and “patients”. The result was a total of 11 studies that were evaluated. The studies were found to be of variable quality with methodological flaws in some studies. However, the majority of the studies found that the use of a 3-D implantable marker was associated with improved targeting for radiation oncologists and/or patients. This was demonstrated through improved patient satisfaction, reduced treatment volumes, and improved cosmesis.

Conclusions: A 3-D implantable marker can help improve the targeting of radiation oncologists and/or patients. This is demonstrated through improved patient satisfaction, reduced treatment volumes, and improved cosmesis.

Physicians and Patient Satisfaction Report


Conclusions:

Judged separately by both physicians (90% good/excellent) and patients (88% good/excellent).

*This poster represents 724 patients which is updated data from the originally submitted abstract.

References:


4. Trombetta MG, Hasan S, Malay MB, Julian TB. Treatment Volume Reduction using the BioZorb® Device in Ipsilateral Breast Radiation Therapy has comparable survival rates to mastectomy and it is the preferred method of treatment in women with early stage breast cancer.


