Treatment Efficacy with Accelerated Partial Breast Irradiation (APBI): Final Analysis of the American Society of Breast Surgeons (ASBS) MammoSite® Breast Brachytherapy Registry Trial

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MammoSite® 5 Day
Radiation Therapy System

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OBJECTIVE

To examine the final data on treatment efficacy, cosmesis and toxicities of the ASBS MammoSite breast brachytherapy registry trial.

MATERIALS AND METHODS

The ASBS MammoSite® breast brachytherapy registry trial was performed at 97 institutions. A total of 1,440 patients with early-stage breast cancer were treated with APBI using single lumen MammoSite devices. Of these 1,440 patients, 1,225 cases were invasive breast cancer (IBC) and 194 cases were Ductal carcinoma in situ (DCIS). Entire patient population had a median follow-up period of 63.1 months.

RESULTS

- Ipsilateral breast tumor recurrence (IBTR) was developed in 41 cases (2.8%) for a 5-year actuarial rate of 3.8 % (3.7% for IBC and 4.1% for DCIS).
- Excellent/good cosmesis was observed in:
  - 91.3% of patients at 5 years
  - 90.5% of patients at 6 years
  - 90.6% of patients at 7 years
- The overall rate of fat necrosis was 2.5% with an infection rate of 9.6% and few late toxicity events beyond 2 years
- The overall symptomatic seroma rate was 13.4% and 0.6% beyond 2 years

CONCLUSION

The study concluded that the final analysis of the ASBS MammoSite breast brachytherapy registry trial confirmed the previously noted excellent results of treatment efficacy, cosmesis and toxicity. The study also concluded these results are similar and compared favorably with other forms of APBI and whole-breast irradiation with similar follow-up period.

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