

A Retrospective Review of Electron Intra Operative Radiotherapy for Breast Cancer at Cancer Treatment Centers of America



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- In March of 2010, we initiated an IORT program at Philadelphia's CTCA with a Portable Electron Linear Accelerator. Two other CTCA centers, Tulsa and Chicago, soon followed.
- The purpose of this brief presentation is a preliminary report of our use of IOERT for breast cancer over the first four years.

- The medical records of 438 unique patients who received IORT between March 2010 and June 2014 at three of our centers were reviewed for complication rates and IORT specific treatment parameters. A total of 448 IORT treatments occurred. A subset of 356 patients was randomly selected for further analysis, of which 301 treatments were performed in patients with breast cancer.

- Within the breast cancer subset, the mean prescribed depth was 1.70cm (range 0.8-3cm), and mean cone diameter was 6cm (range 4-9cm). The mean prescribed iso-dose percentage was 92%.

Indications

- PBI ALONE (21 Gy) : 72.1 %
- PBI followed by WB EBRT: 24.5 %
- IORT to NAC following subcutaneous mastectomy : 3.4%

Energies Used:

- 4 MeV 9 %
- 6 MeV 44 %
- 8 MeV 22%
- 10 MeV 26 %



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- Twenty-six percent (26%) of patients experienced grade 1-3 acute complications, having occurred within 30 days of receiving IORT, while 13% of patients experienced side-effects related to IORT therapy after this initial 30 day period.
- The most common adverse events were hematoma/seroma, infections, and swelling.

- While the mean follow up is still too short to evaluate meaningfully, we have so far identified:
- 6 loco-regional recurrences (2%)
 - 5 in breast recurrences (1.7%)
 - 1 in quadrant recurrence (0.3%)
 - 1 lymph node recurrence (0.3%)

Conclusion (so far...)



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- In this preliminary report of patients with breast cancer who received IORT, we found that this treatment was well tolerated, with no additional complications observed over that of a lumpectomy alone followed by EBRT. In addition this treatment offers a very significant shortening of the radiation course length.



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- We expect to have more detailed analysis and longer follow up data on our next ISIORT meeting



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- Thank you for your attention and...
- **SEE YOU SOON!**