Bolus Electron Conformal Therapy: Left Temple

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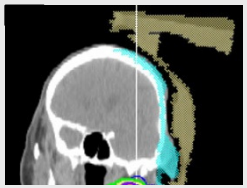
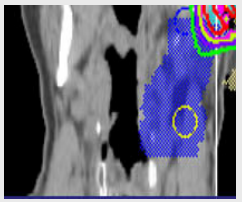
PATIENT HISTORY

- 66 year old white male
- September 2008
  - 3.8 cm squamous cell CA skin resected from L temple. Margins -
- May 2009
  - 7-8 cm tumor recurrence in L temple
  - Biopsy showed differentiated squamous cell CA
- May 2009
  - Resection with 10 cm defect repaired with flap. Margins close and focal +
- Treatment Options
  - TomoTherapy (not available locally)
  - BolusECT® + IMXT to upper neck

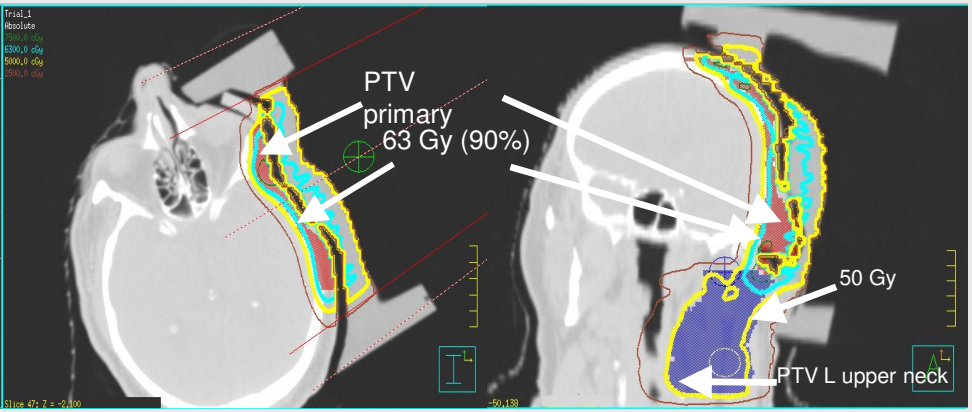
DOSE PRESCRIPTION

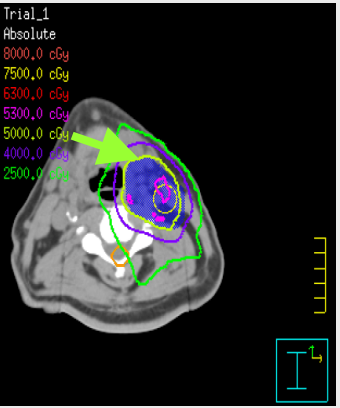
- L Temple
  - 63 Gy at 2.25 Gy /Fx (28 Fx)
  - BolusECT® using L oblique 9-MeV electron field
- L Upper Neck
  - 50 Gy at 2.0 Gy /Fx (25 Fx)
  - IMXT using 5-fields of 6-MV x-rays with matching edge without electron bolus
  - Optimized on top of electron dose distribution

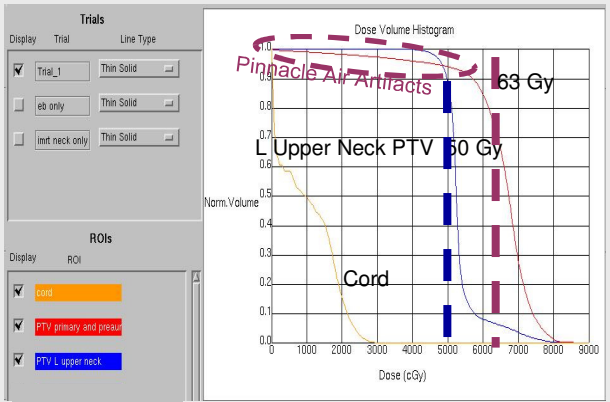




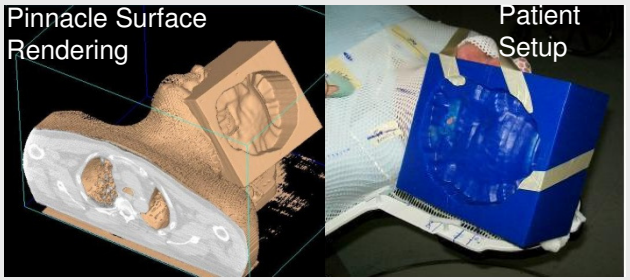
DOSE PLANNING







BOLUS SETUP



FOLLOW-UP

(7 months post treatment)

- No recurrence at scalp or neck
- Small persistent unhealed area of skin at the area of the previous skin graft (Severe diabetes and new skin graft has been delayed because of severe unhealed diabetic foot)

SUMMARY

- BolusECT® conformed well to PTV sparing underlying brain tissue.
- IMXT optimized on top of bolus ECT dose distribution provided a good dose distribution in region of abutment.
- BolusECT® + IMXT is a viable substitute for helical TomoTherapy that we have often used to treat similar lesions.

Acknowledgements: Medical physicists Connel Chu, MS and Kenneth Hogstrom, PhD participated in the implementation of bolusECT® at Mary Bird Perkins Cancer Center and in bolusECT® treatment planning for this patient.

Conflict of Interest: MBPCC has a research agreement with .decimal, Inc.