Brachytherapy for Brain Tumors

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Rationale for brachytherapy

- Local failure in 90% of patients
- Higher doses may provide greater control
- External beam dose escalation was too toxic
Malignant glioma protocol

- 60 Gy BT + 60 Gy EX RT vs. 60 Gy EX RT
- Stereotactic placement of I-125 seeds
- 40 cGy/hr for about a week
- Multiple after-loading catheters
BTCG Brachytherapy
Catheter placement
BTCG
Brachytherapy
Dose distribution
BTCG Brachytherapy
Initial scan and 8 month F/U
The GliaSite System
Malignant tumor: initial scan
The GliaSite balloon in place
The GliaSite case: 6 weeks F/U
Summary

- Outcome of brachytherapy is poor
- Focal radio-necrosis is an issue
- In the era of SRS, brachytherapy has uncertain future in treating brain tumor