



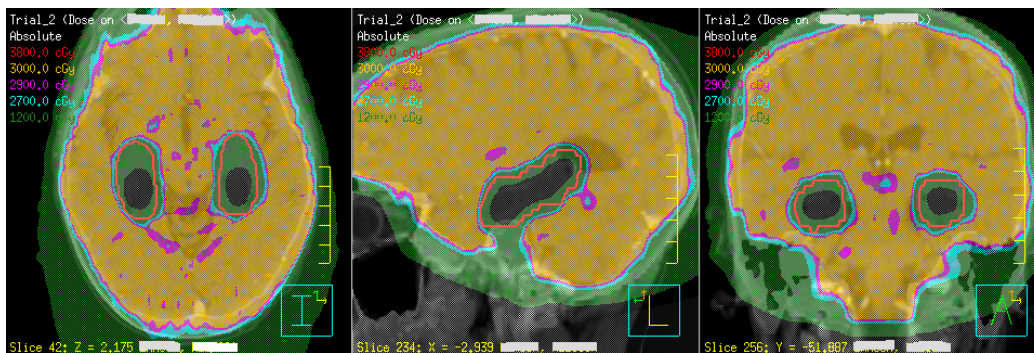
ROC October 2013 Newsletter

Memory Preservation with Hippocampal Sparing during Radiotherapy for Brain Tumors

Exciting new results, presented at the Plenary Session of the 2013 Annual Meeting of the American Society for Radiation Oncology (ASTRO) in Atlanta, GA, demonstrate that sparing the hippocampus of significant doses of radiation during cranial radiotherapy using highly sophisticated radiotherapy techniques prevents memory loss and preserves quality of life¹.

RTOG 0933 was a multi-institutional international study of whole-brain radiotherapy (WBRT) with hippocampal sparing for patients with brain metastases. The primary endpoint was a memory test and built into the study was a pre-specified comparison to a historical control of brain metastasis patients treated with WBRT without hippocampal sparing.

Hippocampal sparing led to a 7% average decline in memory score from baseline to 4 months. In comparison to the 30% decline observed in the historical control, this result was highly significant ($p=0.0003$). By 6 months, average decline in memory score was 2%. In addition, no decline in quality of life scores was observed.



Vinai Gondi, M.D., ROC physician and co-Principal Investigator of RTOG 0933, was the lead author on the abstract and presented the results. Dr. Gondi's research team developed the published radiotherapy techniques to achieve hippocampal sparing³, and Dr. Gondi has led multiple training workshops that led to the RTOG certification of 112 physicians and 84 sites spanning community, academic and international institutions.

As Co-Director of the Cadence Brain Tumor Center, Dr. Gondi discusses this technique with patients who receive WBRT for brain metastases or prophylactic cranial irradiation for small cell lung cancer. In addition, as part of his brain tumor service at the Cadence Proton Center, Dr. Gondi has developed specialized proton therapy techniques to avoid the hippocampus during partial brain radiotherapy for low-grade or benign brain tumors.

If you're interested in learning more about Dr. Gondi's research or his techniques for hippocampal avoidance, please call him at [630-352-5350](tel:630-352-5350) or [630-821-6472](tel:630-821-6472) or email him at vgondi@chicagocancer.org.

References

1. Gondi V, Mehta MP, Pugh S, Tome WA, Kanner A, Caine C, Rowley H, Kundapur V, Greenspoon JN, and L Kachnic. Memory preservation with conformal avoidance of the hippocampus during whole-brain radiotherapy for patients with brain metastases: Primary endpoint results of RTOG 0933. *International Journal of Radiation Oncology, Biology, Physics*. 2013; 87(2): LBA1.
2. Gondi V, Tolakanahalli R, Mehta MP, Tewatia D, Rowley H, Kuo JS, Khuntia D, and WA Tome. Hippocampal-sparing whole brain radiotherapy: A "How-To" technique utilizing helical tomotherapy and LINAC-based intensity modulated radiotherapy. *International Journal of Radiation Oncology, Biology, Physics*. 2010; 78(4): 1244-52. PMID: 20598457.
3. Gondi V, Tome WA, and MP Mehta. Why avoid the hippocampus? A comprehensive review. *Radiotherapy & Oncology*. 2010; 97(3): 370-6. PMID: 20970214.