

The Use of Low Dose CNS Irradiation in the Treatment of Alzheimer's Dementia: The ROAD Consortium Experience

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Abstract

The use of low dose radiation has shown early and long lasting responses in non CNS sites. The ROAD consortium has been studying the effect of similar doses on genetically altered animal models. Based on the success in the reduction in both amyloid burden, Tau pathologies and statistical improvement in neurocognitive testing, we elected to develop a Ph 1 trial, initially with the approval of the FDA and then expanded to include a larger patient population, using the same low dose schedule. We were initially encouraged to do this protocol based on 4 individuals with AD who also had been diagnosed with small cell lung cancer and underwent PCI. We followed these patients using MMSE and we encouraged that the MMSE had worsened by 2 point or less at up to 24 months

To date at 3 centers 13 patients have been treated using the lowest dose we intend to use, 5 x 200 cGy. We have also obtained Amyvid PET scans at designated times along with MMSE and ADAG-COG neurocognitive testing. We have also collected toxicity data using CTCAE v 4.0 CNS criteria.

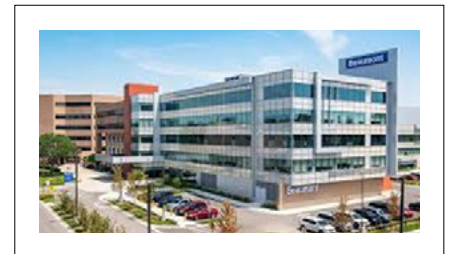
To date we have not experienced any acute toxicity and subjective evaluation from patient families have been very positive

We will review updated MMSE / ADAS-COG and Amyvid PET scan results along with toxicity associated with this treatment

ROAD will update our experience with this potential treatment option for AD. To date we have not identified any acute toxicity associated with this treatment regimen. We continue to accrue patients and are planning on expanding ROAD to 2 new centers in the next 6 months.

Biography

Leland Rogers, MD, is a radiation oncologist and professor of radiation oncology at Barrow Neurological Institute. He is board certified in radiation oncology by the American Board of Radiology. His expertise includes the treatment of central nervous system tumors using radiation therapy and brachytherapy. He is a fellow of the American College of Radiation Oncology, the American College of Radiology, and the American Society for Radiation Oncology. He is a member of the American Brachytherapy Society, the American Medical Association, NRG Oncology, and the Society for Neuro-Oncology. He earned his medical degree from the University of Kentucky College of Medicine. He completed his residency in radiation oncology at the University of North Carolina at Chapel Hill and a clinical fellowship in radiation oncology at the American Cancer Society. His research focuses on meningioma, ependymoma, and other brain and spinal tumors; trigeminal neuralgia; and Alzheimer's disease. He also studies brachytherapy in all its applications.



Publications

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