

Surrogate Markers for Glioma Diagnosis: Diffusion Weighted Magnetic Resonance Imaging and Magnetic Resonance Spectroscopy

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Abstract

A series of surrogate markers are proposed that will investigate the ability to predict efficacy of radiation therapy for primary or metastatic gliomas. The Apparent Diffusion Coefficient (ADC), obtained from Diffusion Weighted Magnetic Resonance Imaging (DWMRI), along with Magnetic Resonance Spectroscopy (MRS) are both probed for their predictive ability.

- I) Introduction
- II) Specific Aims
 - A) Categorize Lesion Volume/Location (Sulci Density)
 - B) MRS Spectra and DWMRI Scans.
 - C) Quantify tumor response
 - i) Unresected (Macdonald et al.)
 - ii) Resected/Debulked
 - iii) Pseudoprogression
 - iv) Radiation Necrosis vs. Recurrent Disease
- III) Background and Significance
 - A) Previous use of ADC: Treatment Efficacy
 - B) Previous use of MRS: Differential Diagnosis
- IV) Preliminary Studies
 - A) MRS
 - B) ADC
- V) Research Design and Methods
- VI) Inclusion Enrollment Report
- VII) Publication List