Redefining MRI:
From Image to Insight

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Neuro 2

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Sodium Imaging and Oxygen Metabolism in Neuro-Oncology

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Advanced MRI techniques may provide information on tumor physiology that is not available from conventional structural imaging alone. This lecture will review imaging approaches for evaluating tumor oxygenation, including perfusion- and oxygen metabolism-related parameters, and their potential applications in glioma characterization and prognosis. Sodium MRI will also be introduced as an emerging technique for assessing tissue sodium concentration and changes in the tumor microenvironment. Current technical considerations, preliminary clinical applications, and possible future roles of these methods in neuro-oncology will be discussed.

Keywords: *Sodium MRI, Oxygen metabolism, Quantitative MRI, Glioma, Neuro-oncology*