

Natureza do trabalho: Resumo

TÍTULO

MAGNETIC RESONANCE SPECTROSCOPY PROMISES EARLY DETECTION OF HIV-ASSOCIATED DEMENTIA

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RESUMO

Introduction: Human immunodeficiency virus (HIV) infection is related with neurological impairment that occurs even in the absence of great neuroinfection, suggesting that indirect mechanisms take part on CNS pathogenesis. Magnetic resonance spectroscopy (MRS) may help in detecting neuronal dysfunction before it became irreversible and related to HIV-associated dementia (HAD). **Literature Review:** A current study found that brain MRS performed at 3T can detect reduced levels of Glx in the frontal white matter of patients with HAD compared to those without dementia. Worse performance on measures of executive function, measures of motor and psychomotor speed and attention and working memory were associated with lower Glu and Glx concentrations. A “Cho factor” when found on high levels across deep gray and white matter regions was associated with HIV-infected people. An “NAA factor” when decreased was associated to HAD. HIV subjects with cognitive deficits have shown reduced parietal gray matter GLU. This decrease may occur in consequence of reduced astrocytic reuptake of GLU, secondary excitotoxicity, and mitochondrial toxicity in response to antiretroviral treatments. **Conclusion:** The MRS might be useful in diagnose HAD previously, once it is able to detecting subtle changes on concentrations of substrates CNS at neurobiochemical level even when there aren't clinical symptoms. The early detection of HAD is important to provide ways to study treatments that can block or delay disease progress.