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# FINDING MARKERS IN AMYOTROPHIC LATERAL SCLEROSIS

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## Abstract

Introduction: Amyotrophic lateral sclerosis (ALS) is an uncommon illness, motor neuron degeneration, upper, lower causes it and bulbar muscles are affected. The diagnostic is based in Scorial criteria. Some research also report degeneration in no motor structures of the brain.

Objective: Evaluate Electrophysiological and Image techniques findings in ALS diagnosis. To correlate this results.

Method: During January 2016 to January 2018, twenty patients with ALS diagnosis and twenty health subjects were evaluated. Sensory and motor nerve conduction studies (NCS), Electromyography (EMG), Somato-Sensory Evoked Potentials (SSEP) were done to the patients. 3T Magnetic Resonance Image (MRI) were obtained from the patients and from the health subjects. Post- processing MRI techniques were applied.

Results: NCS study was positive in 90 % of the patients, SSEP were positive in 60 % and EMG abnormalities were observed in 100% of patients. Anatomic MRI was positive in 50% of the patients, it showed cortical atrophy, ventricles enlargement and hyperintensity of the corticospinal tract.

Fractional Anisotropy (FA) was reduced in ALS group in comparison with health group, more significant at cortex, internal capsule and corpus callosum. Fibers number of corticospinal tract and corpus callosum were diminished in ALS group in relation to health group.

Also grey and white matter were reduce in ALS group in relation with Health group.

FA abnormality in corticospinal tract at cortex, internal capsule, brainstem and corpus callosum was in correlation with clinic (ALSFRS-R) scale and neurophysiologic abnormalities.

Conclusions: Electrophysiological studies confirmed ALS diagnosis in 100% of cases. MRI methods show abnormalities in motor and not motor structures of brain in ALS patients.

Key words: ALS, EMG, Nerve Conduction Studies, Somato-Sensory Evoked, MRI, Fractional Anisotropy, Tractography, and Voxel based Morphometric.

## Biography

Bárbara Aymeé Hernández Hernández, Titular Researcher and Professor, Cuban Centre for Neuroscience. She had completed his PhD in the year 2006 at the age of 35 years from Havana University of Medical Science. She is the Titular Professorand Research from Cuban Neuroscienc Center. She has published more than 35 papers in reputed journals and has been serving as an editorial board member of repute.

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