Behavioural Neurology

Hindawi

Special Issue on

ALS-FTLD Spectrum Disorders: From Dysregulated Molecular Pathways to Neuroimaging Evidence

CALL FOR PAPERS

The notion that amyotrophic lateral sclerosis (ALS), an adult-onset neurodegenerative disorder associated with progressive motor neuron loss in the brain and spinal cord, and frontotemporal lobar degeneration (FTLD), the second most common form of pre-senile dementia after Alzheimer's disease, including behavioural and language variants, represent two ends of the same disease spectrum has been supported by a growing body of clinicoradiological, molecular, and genetic evidence accumulated during the last two decades. At the neuropsychological level, overlapping cognitive symptoms, such as executive and language dysfunction and social cognition impairments, can also be observed in both ALS and FTD cases. Moreover, at the clinical level, the high variability in phenotypes and biological pathways found in the ALS-FTLD continuum has underlined the need for evaluating a personalized medicine approach, which is a medical scheme that combines study of genetic, environmental, and clinical diagnostic testing, including biomarkers, to individualized patient care. To note, given that no biomarker has been still validated for assessing and monitoring neurodegenerative processes, the discovery of surrogate biomarkers will help early diagnosis and improve therapeutic intervention also in the ALSFTLD continuum, thus stimulating growing interest in this research field. Interestingly, automated segmentation and analysis software applied to high-resolution volumetric magnetic resonance imaging (MRI) scans, as well as diffusion tensor imaging of large white matter tracts and functional MRI analyses, have been proven useful to investigate both distinctive and overlapping patterns of frontotemporal brain networks impairment in several cohorts of patients affected by ALS, FTD, or both. However, at present, the major challenge is to translate these MRI findings so that they are applicable to individual patients.

On this background, this special issue aims to bring a translational approach to update insights into the field of clinical, genetic, pathological, and neuroimaging evidence derived from clinicoradiological and basic science analyses performed in the spectrum of ALSFTLD, especially in the perspective of personalized medicine.

Neuroscientists from all over the world are invited to submit original research papers, clinical studies, and review articles.

Potential topics include but are not limited to the following:

- Clinical, genetic, pathological, and neuroimaging signatures of neurodegeneration across the ALS-FTLD spectrum
- Common or distinctive genetic, molecular, neurophysiological, and neuroimaging correlates of behavioural and cognitive changes in ALS-FTLD spectrum disorders
- Synaptic function and neural networks underlying behavioural and cognitive changes in ALS-FTLD spectrum disorders
- Perspectives of personalized medicine for ALS-FTLD spectrum disorders
- Investigation of neurochemical and neuroimaging biomarkers of neurodegeneration
- Methods for individual identification of patients belonging to the ALS-FTLD spectrum using multimodal approaches

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/bn/dmpne/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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