

Brief exam diagnoses cognitive impairment in ALS patients

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(Medical Xpress) -- Patients with amyotrophic lateral sclerosis (ALS) could lose brain function earlier than is noticeably detectable, affecting their ability to make decisions about their care. Physicians need a method to assess these sensitive changes in brain function, without the need for extensive neuropsychological tests.

Penn State College of Medicine researchers created a brief exam that identifies frontotemporal disease (FTD) deficits in judgment and problem-solving in ALS patients. FTD is a decline in function and behaviors associated with the frontal and [temporal lobes](#) of the brain. As the disease progresses, it effects higher-level language processing, [attention span](#), and reasoning, with indirect effect to memory. The disease is often found in ALS patients.

"[Cognitive changes](#) in ALS patients can have a major impact on management of the disease, due in part to the various patterns of behavioral changes that arise," said Claire Flaherty-Craig, Ph.D., assistant professor, Department of Neurology. "Dysfunction could provide a significant obstacle when it comes time to make important [end-of-life decisions](#), such as placement of feeding tubes, use of a ventilator, and clarification of [advance directives](#). It has been shown that patients with ALS and FTD have a poorer prognosis than those with ALS alone."

The Penn State Brief Exam of Frontal and Temporal Dysfunction Syndromes (PSFTS) was developed for the multi-disciplinary ALS clinic at Penn State Milton S. Hershey Medical Center to identify patients with

frontal dysfunction and was refined to differentiate three subtypes of FTD. The exam has been used in more than 200 patients and is now standard of care at the Medical Center.

Researchers published their findings on the PSFTS in the journal *Cognitive and Behavioral Neurology*.

Thirty-eight patients completed both the brief exam and a comprehensive neuropsychological exam. From this, thirteen ALS patients not showing any deficiencies on the brief exam were identified as the ALS control group. Twenty-five patients were identified as deficient in at least one measure of the brief exam and identified as the ALS-Ci -- cognitively-impaired -- group. The researchers also had a group of 18 healthy volunteers.

The PSFTS requires 15 to 20 minutes to complete, with 20 minutes for assessment in the clinic. Measures chosen were those considered sensitive to frontal and temporal dysfunction, relevant to decision-making and problem-solving and relevant to patient involvement in ALS treatment planning.

"The ability to identify emerging difficulties with decision making and problem solving in the ALS clinic remains of vital importance to optimal treatment planning from the time of diagnosis to the terminal stage of the disease process," said Flaherty-Craig. "The PSFTS represents an approach to detection of the effect of the behavioral change upon complex cognitive processes in the very early stage, when [behavioral changes](#) may be too subtle to be of concern to patients and loved ones. The exam may serve as a practical approach to evaluation and monitoring the progression of cognitive change in the emergence of FTD and throughout the course of the neurodegenerative disease process."

Provided by Pennsylvania State University

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