Isolated psychiatric episodes rare, but possible, in common form of autoimmune encephalitis

26 July 2013

A small percentage of people diagnosed with a mysterious neurological condition may only experience psychiatric changes - such as delusional thinking, hallucinations, and aggressive behavior - according to a new study by researchers in the Perelman School of Medicine at the University of Pennsylvania. In addition, people who had previously been diagnosed with this disease, called anti-NMDA receptor (anti-NMDAR) encephalitis, had relapses that only involved psychiatric behavior. In an article published Online First in *JAMA Neurology*, researchers suggest that, while isolated psychiatric episodes are rare in anti-NMDAR encephalitis cases, abnormal test findings or subtle neurological symptoms should prompt screening for the condition, as it is treatable with immunotherapies.

Within a large group of 571 patients with confirmed Anti-NMDAR Encephalitis, only 23 patients (4 percent) had isolated psychiatric episodes. Of the 23, 5 patients experienced the onset of behavior changes as their only symptoms, without neurological changes, while 18 patients had psychiatric symptoms emerge at the outset of a relapse of Anti-NMDAR Encephalitis in which no neurological changes were identified. After being treated for the condition, 83 percent of these patients recovered substantially or completely.

"While many patients with Anti-NMDAR Encephalitis present with isolated psychiatric symptoms, most of these patients subsequently develop, in a matter of days, additional neurological symptoms which help to make the diagnosis of the disease. In the current study, we find out that a small percentage of patients do not develop neurological symptoms, or sometimes these are very subtle and transitory. Studies using brain MRI and analysis of the cerebrospinal fluid may help to demonstrate signs of inflammation," said Josep Dalmau, MD, PhD, adjunct professor of Neurology. "For patients who have been previously diagnosed with Anti-NMDAR Encephalitis and are in remission, any behavior change may present a relapse and should be tested quickly and treated aggressively."

Anti-NMDAR Encephalitis is one of the most common forms of autoimmune encephalitis, and symptoms can include psychiatric symptoms, memory issues, speech disorders, seizures, involuntary movements, and loss of consciousness. In an earlier Penn Medicine study, 38 percent of all patients (and 46 percent of females with the condition) were found to have a tumor, most commonly it was an ovarian tumor. When correctly diagnosed and treated early, Anti-NMDAR Encephalitis can be effectively treated.

"For patients with new psychotic symptoms that are evaluated in centers where an MRI, EEG or spinal fluid test may not have been administered, there is a chance that Anti-NMDAR Encephalitis may be missed," said lead author Matthew Kayser, MD, PhD, postdoctoral fellow and attending physician in Psychiatry at Penn. "However, the likelihood of pure or isolated new-onset psychosis to be anti-NMDAR encephalitis gradually decreases if no other symptoms emerge during the first 4 weeks of psychosis."

Anti-NMDAR Encephalitis was first characterized by Penn's Josep Dalmau, MD, PhD, adjunct professor of Neurology, and David R. Lynch, MD, PhD, associate professor of Neurology and Pediatrics, in 2007. One year later, the same investigators, in collaboration with Rita Balice-Gordon, PhD, professor of Neuroscience, characterized the main syndrome and provided preliminary evidence that the antibodies have a pathogenic effect on the NR1 subunit of the NMDA

receptor in the Lancet Neurology in December 2008. The disease can be diagnosed using a test developed at the University of Pennsylvania and currently available worldwide. With appropriate treatment, approximately 81 percent of patients significantly improve and, with a recovery process that takes an average of 2 years, can fully recover.

More information: *JAMA Neurol.* 2013;():-. doi:10.1001/jamaneurol.2013.3216

Provided by University of Pennsylvania School of Medicine