Child & Adolescent Psychiatry Grand Rounds

WCM Department of Psychiatry Psychology CE Announcement

Pediatric Autoimmune Encephalitis: Updates and Current Treatment Approaches

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1.5 CE credit available to WCM Department of Psychiatry full time and voluntary faculty Psychologists and Social Workers who sign in with their full name, attend the majority of the lecture and complete a survey which will be emailed following the completion of the lecture. Note the survey must be completed within 30 days of the lecture. Please contact wempsychiatryce@med.cornell.edu for additional CE information

SPEAKER: Dr. Mooneyham has no relevant financial relationship(s) with ineligible companies to disclose and DOES NOT INTEND to discuss off-label or investigational use of products or services.

Dr. Mooneyham is a Medical Officer and Associate Research Physician at the National Institutes of Health where she serves as the Medical Director of the NIMH Autoimmune Brain Disorders Program. Dr. Mooneyham completed a triple board residency at Indiana University School of Medicine, and she is board certified in General Pediatrics, Adult Psychiatry, and Child & Adolescent Psychiatry. After training, Dr. Mooneyham was on faculty at Duke University School of Medicine (2016-2020) where she served as the Director for the Pediatric Consultation & Liaison Psychiatry Service within Duke Children's Hospital, Co-Director for the Pediatric Autoimmune Brain Diseases Clinic, and Psychiatry Clerkship Director for the Department of Psychiatry. Dr. Mooneyham was recruited to the NIMH in 2020 and her translational research efforts are centered on defining best practice in the collaborative care for pediatric patients with Autoimmune Encephalitis. Dr. Mooneyham is the Inpatient Services Director for the NIMH inpatient pediatric psychiatry unit at the Clinical Center. She also serves as an Attending Physician on the Psychiatry Consultation-Liaison Service within the NIH Clinical Center. Dr. Mooneyham is spearheading a pediatric translational research program exploring the immune system's role in Autoimmune Encephalitis and other immune mediated causes of psychosis. Dr. Mooneyham's research includes deep clinical phenotyping along with the application of genomic technologies and immunophenotyping in patients with otherwise undiagnosed neuropsychiatric conditions.

Abstract:

Autoimmune encephalitis (AE) is an antibody mediated inflammatory brain disease that often presents with debilitating neuropsychiatric symptoms. However, patients with AE are frequently misdiagnosed as having a primary psychiatric illness and the underlying reason for their symptoms may go unrecognized. N-Methyl-D-Aspartate receptor (NMDAR) antibodies were the first example in which an underlying mechanism of AE was discovered^{1,2}. AE now describes a spectrum of illness characterized by inflammation of the central nervous system due to the production of anti-neuronal antibodies³. There has been a dynamic discovery of new antibody subtypes over the past 15 years^{4,5}. When considering AE in the differential diagnosis, there are notable differences in the pediatric and adult populations. These include differences in clinical phenotypes, the etiology of autoantibody production, and the epidemiological frequencies of antibody subtypes⁶. Audience members will have an opportunity to review the immunological underpinnings of this diagnosis and become familiar with updates in the literature regarding Autoimmune Encephalitis. Likewise, this talk will review common pitfalls in clinical decision making and interpretation of the diagnostic workup when considering autoimmune encephalitis in the differential. Finally, audience members will be introduced to next generation diagnostic testing that may influence the standard of care in years to come.

Learning Objectives:

- 1. Discuss key differences in the innate and adaptive immune responses.
- 2. Analyze common pitfalls in clinical decision making as it relates to the diagnosis of Autoimmune Encephalitis (AE).
- 3. Discuss diagnostic testing methods that may influence the next generation and their standard of care in years to come.

References:

- Graus, F., Titulaer, M. J., Balu, R., Benseler, S., Bien, C. G., Cellucci, T., Cortese, I., Dale, R. C., Gelfand, J. M., Geschwind, M., Glaser, C. A., Honnorat, J., Höftberger, R., Iizuka, T., Irani, S. R., Lancaster, E., Leypoldt, F., Prüss, H., Rae-Grant, A., Reindl, M., ... Dalmau, J. (2016). A clinical approach to diagnosis of autoimmune encephalitis. *The Lancet. Neurology*, 15(4), 391–404. https://doi.org/10.1016/S1474-4422(15)00401-9
- Cellucci, T., Van Mater, H., Graus, F., Muscal, E., Gallentine, W., Klein-Gitelman, M. S., Benseler, S. M., Frankovich, J., Gorman, M. P., Van Haren, K., Dalmau, J., & Dale, R. C. (2020). Clinical approach to the diagnosis of autoimmune encephalitis in the nediatric patient. Neurology (R.) neuroimmunology & neuroinflammation. 7(2), e663. https://doi.org/10.1212/NXI.0000000000000663
- the diagnosis of autoimmune encephalitis in the pediatric patient. Neurology(R) neuroimmunology & neuroinflammation, 7(2), e663. https://doi.org/10.1212/NXI.000000000000000663

 Guasp, M., Rosa-Justicia, M., Muñoz-Lopetegi, A., Martínez-Hernández, E., Armangué, T., Sugranyes, G., Stein, H., Borràs, R., Prades, L., Ariño, H., Planagumà, J., De-La-Serna, E., Escudero, D., Llufriu, S., Sánchez-Valle, R., Santamaria, J., Compte, A., Castro-Fornieles, J., Dalmau, J., & Spanish anti-NMDAR Encephalitis Study Group (2022). Clinical characterisation of patients in the post-acute stage of anti-NMDA receptor encephalitis: a prospective cohort study and comparison with patients with schizophrenia spectrum disorders. The Lancet. Neurology, 21(10), 899–910. https://doi.org/10.1016/S1474-442/22/2000299-X
- 4. Dalmau, J., & Graus, F. (2023). Diagnostic criteria for autoimmune encephalitis: utility and pitfalls for antibody-negative disease. The Lancet. Neurology, 22(6), 529–540. https://doi.org/10.1016/S1474-4422(23)00083-2
- 5. Dalmau, J., & Graus, F. (2023). Autoimmune Encephalitis-Misdiagnosis, Misconceptions, and How to Avoid Them. JAMA neurology, 80(1), 12–14. https://doi.org/10.1001/jamaneurol.2022.4154