

Results

NA.

Conclusions

Myeloradicitis has been reported with anti-MOG disease but is not a typical finding for NMO. We report this case to highlight this unusual finding. In addition, sarcoma is an uncommon cause of paraneoplastic syndromes and to our knowledge, this is the first report of sarcoma being associated with paraneoplastic NMOSD.

Disclosure: Dr. Hussein has nothing to disclose. Dr. Samkutty has nothing to disclose. Dr. Durica has nothing to disclose. Dr. Anadani has nothing to disclose.

Missed Opportunities to Prevent N-methyl-D-Aspartate Receptor (NMDAR) Encephalitis in a DREAMer

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Objective

Describe a case of NMDAR encephalitis in a young Latino male patient, additionally the factors resulting in delayed preventative and diagnostic medical care, which contributed to the development of a preventable case of NMDAR encephalitis.

Background

Adolescent undocumented immigrants in the United States face a history of prejudice and bias that perpetuates disparities and stigmas related to their healthcare. The lack of culturally informed practices among healthcare workers can create multiple lost opportunities to deliver standard of care practices, including routine testicular exams. The treatment of NMDAR encephalitis with immunotherapy, and resection of culpable tumors when present, can be lifesaving. Recognition of the germ cell tumor association has also renewed awareness of the importance of screening for such tumors.

Design/Methods

N/A.

Results

Case: A 25-year-old male who immigrated from Mexico to the U.S. at age 13 presented to the hospital for concern of status epilepticus. His past medical history included atypical developmental delay beginning in late teenage years. A large abdominal mass was identified on imaging as a stage IIIC (pT1bN0M1bS2) NSGCT (70% teratoma/30% seminoma) tumor arising from an unresected, undescended left testicle. Autonomic instability in the setting of this malignancy prompted an evaluation for, and diagnosis of, NMDAR encephalitis. His course was complicated by altered mental status, seizures, sympathetic storming, and orofacial dystonia. After tumor resection, and initiation of immune therapy, the patient showed a remarkable recovery.

Conclusions

This patient's preventive healthcare was impacted at multiple timepoints by changing political policies and a lack of culturally informed practices that unpredictably disrupted reliable access to medical care. Recognition of care gaps allows us to expand our differential diagnoses, and enact a comprehensive approach to fill in gaps. Effective communication, incorporating focused discussions within culturally sensitive frameworks, requires ongoing education for clinicians regarding the populations they serve to prevent disease and minimize health care disparities.

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Neuronal Uptake of Paraneoplastic and Other IgGs is Mediated by the Fc Portion of the IgG Molecule and Involves Previously Uncharacterized Neuronal FcγRI Receptors: Implications for Antibody-Mediated Neuronal Injury

Tammy Smith, Suzanne Liu, Noel Carlson, Stacey Clardy, John Greenlee

Objective

To investigate the mechanisms by which neurons take up paraneoplastic and other antibodies.

Background

Our laboratory has previously demonstrated that neurons can take up both normal and paraneoplastic IgGs and that paraneoplastic autoantibodies such as anti-Yo and anti-Hu can bind to their intracellular target antigens to produce neuronal death. In this study we investigated how neuronal antibody uptake occurs.

Design/Methods

We first compared neuronal uptake of normal and paraneoplastic Fab fragments with that of normal IgG Fc fragments or whole paraneoplastic IgGs. To determine whether neurons expressed receptors capable of binding the Fc portion of the IgG molecule, paraformaldehyde-fixed mouse and rat brains sections were probed with antibodies for the three major types of Fc receptors: FcγRI (CD64), FcγRII, (CD32) and FcγRIII (CD16). Neuronal uptake of antineuronal IgGs was compared between wild type mice and knockout mice lacking the FcγRI receptor. We also investigated whether neuronal IgG uptake could be blocked by normal IgG.

Results

Neurons incorporated the Fc fragment of normal IgG but not the Fab fragment. Intact paraneoplastic IgGs were taken up by neurons, but immunospecific Fab fragments were excluded. Neurons throughout cerebrum, cerebellum, and brainstem showed immunolabeling for FcγRI, but only rare neurons expressed FcγRII or FcγRIII. Uptake of paraneoplastic IgG and neuronal death were not observed in cultures from FcγRI knockout mice but were extensive in cultures from wild type controls. Paraneoplastic antibody uptake could be inhibited by normal IgG.

Conclusions

Neuronal uptake of normal and paraneoplastic IgGs requires the interaction of the Fc portion of the IgG molecule with previously uncharacterized neuronal FcγRI receptors. Our study provides a mechanism through which antibodies reactive with intracellular neuronal proteins could gain access to their target antigens to cause neuronal injury and neurological disease. The observation that neuronal antibody uptake can be blocked by normal IgG has possible implications for patient treatment.

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Anti-Tr/DNER Paraneoplastic Cerebellar Degeneration with Marked Cerebellar and Psychological Symptoms Responsive to Plasma Exchange

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Objective

We present a patient who developed cerebellar degeneration and severe psychological symptoms leading to the diagnosis of Hodgkin's disease and detection of anti-Tr/DNER antibodies. The patient failed to respond methylprednisolone intravenous immunoglobulin G, rituximab, and tumor treatment but had significant improvement with plasma exchange (PLEX).

Background

Paraneoplastic cerebellar degeneration accompanying Hodgkin's disease may have its onset prior to detection of the underlying malignancy, during its course, or following treatment. The associated autoantibody, anti-Tr, is reactive with neuronal delta/notch-like epidermal growth factor-related receptors (DNER), an autoantibody not included in all paraneoplastic testing screens. The condition characterized by progressive cerebellar injury, and response to immunosuppressive therapy and tumor treatment is generally poor.

Design/Methods

Case Presentation: A 60-year-old male presented with diplopia, progressive loss of balance, and ataxia, with impaired short-term memory, confusion, and anger outbursts. Initial commercial screen for paraneoplastic autoantibodies was negative. Two months following his initial presentation he developed inguinal lymphadenopathy. He was diagnosed as having Hodgkin's Lymphoma Stage 1B and found by a second laboratory to have anti-Tr/DNER antibodies (Titer 1:3480; Reference range <1:240), an antibody not included in the initial testing panel. CSF analysis was notable for a protein of 92 mg/dL. MRI demonstrated normal findings for age.

Results

Treatment with Doxorubicin-Bleomycin-Vinblastine-Dacarbazine (ABVD), pulse methylprednisolone, and intravenous immunoglobulin did not affect disease progression. Plasma exchange PLEX resulted in marked improvement. Symptoms worsened during subsequent treatment with intravenous immunoglobulins and rituximab but improved with further plasma exchange.

Conclusions

Although Hodgkin's disease is an important malignancy in paraneoplastic cerebellar degeneration, its associated autoantibody is not necessarily included in commercial paraneoplastic autoantibody screens, potentially leading to delay in diagnosis. Our patient's dramatic improvement with PLEX suggests that PLEX should be considered early in treatment, or where there is poor response to other treatment modalities.

Disclosure: Dr. Crane has nothing to disclose. Dr. Wynn has nothing to disclose. Dr. DeWitt has received personal compensation in the range of \$5,000-\$9,999 for serving on a Speakers Bureau for Biogen. Dr. Greenlee has received personal compensation in the range of \$500-\$4,999 for serving as an Editor, Associate Editor, or Editorial Advisory Board Member for Medlink. Dr. Greenlee has received publishing royalties from a publication relating to health care. Dr. Greenlee has received publishing royalties from a publication relating to health care.

CASPR-2 Antibody Associated Autoimmunity in the Setting of COVID-19 (Infection, Vaccination, or Both?) and Chronic Lymphocytic Leukemia: Case Report and Review of the Literature

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Objective

To report a case of Anti-Contactin-Associated Protein-like2 (CASPR-2) autoimmunity in a patient with low-grade Chronic Lymphocytic Leukemia (CLL) following COVID-19 vaccination and infection.

Background

Anti-CASPR2 antibody disorder has been associated with neoplastic disorders like thymoma. Recent reports enlist COVID-19 as a potential trigger of CASPR2 autoimmunity. While the clinical presentations are similar, management differs based on the underlying etiology.

Design/Methods

We review a case of anti-CASPR2-antibody associated disorder with concurrent low grade CLL and recent history of COVID-19 vaccination and infection. Additionally, we review the literature and discuss the therapeutic challenges.

Results

A 73-years old male presented with five months of progressive fatigue, weight loss, diffuse sweating, muscle cramps, and neuropathic pain. He eventually developed bilateral upper and lower facial weakness. Patient

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