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A Rare Case of Checkpoint Inhibitor-Induced Myasthenia Gravis

Ifrah Waris, Anusha Gadipudi, Ashley Vincenty-Acosta, Axel Baez-Lugo, Gerald Wallace

Objective

Case report

Background

Immune checkpoint inhibition has proven to be an effective focus for therapy against various types of cancer. In some cases, cancer survival is possible due to checkpoint immunomodulation by the malignant cells, leading to failed targeting by the immune system and continued proliferation. Medications such as Pembrolizumab counteract this defense mechanism by inhibiting interactions between transmembrane proteins found on cancerous cell surfaces, making them susceptible to immune surveillance that results in their suppression. Known side effects of Pembrolizumab include immune symptom complications. We report a case of a patient treated with Pembrolizumab who developed checkpoint-inhibition-induced Myasthenia Gravis.

Design/Methods

Patient was an 85-year-old female with recurrent squamous cell carcinoma of the vulva status post 2 cycles of Pembrolizumab. During a 3-week period, she developed progressive dysphagia, double vision, neck weakness and general malaise. Other reported symptoms were headache and urinary incontinence. The patient reported to the Emergency Department and was subsequently admitted to the Neurological ICU. Neurological exam showed neck extensor and flexor muscle weakness, diplopia, mild diplopia, and generalized weakness.

Results

Brain MRI (Magnetic Resonance Imaging) showed no brainstem pathology. Lumbar Puncture showed (2 Nucleated cells), (81 glucose) and (38 protein). Serum MG antibodies (LRP4, AchR, MusK) were negative. Single-fiber EMG was consistent with neuromuscular junction disorder, most consistent with Myasthenia Gravis. Chest CT (Computed Tomography) was negative. Treatment included IVIG, prednisone, pyridostigmine, methotrexate, and plasmapheresis. Diplopia and neck musculature weakness improved. Due to her chronic medical conditions, the patient and family opted for hospice care.

Conclusions

With rising interest in novel immunotherapies for cancer treatment, reporting on significant side effects becomes essential. There are few case reports on checkpoint inhibitor related Myasthenia Gravis. This case aims to provide knowledge on diagnostic and management strategies with patients that present with similar clinical findings to improve future patient care.

Study Supported By: N/A.

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A Rare Encounter: Sydenham Chorea with Elevated Interleukin 12 Levels Symptom in Responsive to Plasmapheresis and Immunotherapy

Zhimin Xu, Jon Rosenberg, Robert Fekete, Anila Thomas

Objective

Unusual presentation of Sydenham chorea with high Interleukin 12 levels: successful treatment with plasmapheresis and immunotherapy.

Background

Sydenham chorea is a movement disorder characterized by emotional lability, hypotonia, and chorea with involuntary brief, random, and irregular movements of the limbs and face. Mild cases of Sydenham chorea without other manifestations of acute rheumatic fever may be mistakenly ascribed to behavioral or emotional disorders, Tourette syndrome, or clumsiness.

Design/Methods

N/A.

Results

A 22-year-old woman presented with involuntary brief, random, and irregular movements of the limbs for 2 months, worsening agitation, and slurred speech for 1 week. She had been streptococcus-positive recurrently since childhood and additional episodes occurred 2 months prior to the onset of her chorea symptoms. Positive tests including Throat culture grew Beta-hemolytic streptococcus, TTE revealed mild mitral valve regurgitation, hsCRP 3.6, and ANA 1:80. Other tests, including MRI brain, MRI cervical spine, Long-term video EEG, CSF tests, autoimmune and paraneoplastic panel, infection, and metabolic panel, were unremarkable. The patient's symptoms significantly improved with Plasmapheresis, steroid taper, Amantadine, and Penicillin V. She has been compliant with Penicillin since discharge and follow-up appointments showed a residual milkmaid sign in the right hand. TTE revealed possible mitral valve vegetation, hsCRP back to normal, and FCYTP panel in 6 months showed Interleukin 12 increased at 3.9, which is usually elevated in acute compared to persistent Sydenham chorea.

Conclusions

The full workup and early management are crucial for remarkable immunotherapeutic outcomes of Sydenham chorea.

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