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Differential Diagnosis in the Management of CPI Immunotoxicity: Case Series of Etiologies not to Miss

Timothy Gregory, Sudhakar Tummala

Objective

To present on treatable conditions arising with exposure to checkpoint inhibiting immunotherapy for malignancy. Each case was diagnostically obscured by presumed immunotoxicity.

Background

Neurological immune-related adverse events (n-irAEs) are rising in incidence with adoption of checkpoint inhibitors (CPIs) for many cancers. 1-3% of patients treated with CPIs experience severe n-irAEs with potential for persistent functional disability or mortality. Diagnosis can be challenging for immunologically vulnerable patients with frequently multifactorial problems from their cancer and potential infectious, metabolic, and iatrogenic complications.

Design/Methods

Three informative cases from a single institution were analyzed.

Results

1. An 80-year old woman with metastatic melanoma and recent treatment with ipilimumab+pembrolizumab developed acute leg weakness. Given her EMG and CSF findings, she began treatment for suspected CPI-induced atypical GBS and myositis. Concomitantly she was found to have B12 and folate deficiencies, then gradually improved to baseline with vitamin repletion, steroids, and plasma exchange. 2. A 27-year old woman with metastatic melanoma and recent treatment with ipilimumab+nivolumab developed autoimmune hepatitis and intractable vomiting. Three weeks after she began dabrafenib and trametinib, she developed confusion, diplopia, and ataxia along with weakness and areflexia. She was treated for possible GBS, but was concurrently found to have thiamine deficiency with sequela of Wernicke's encephalopathy on MRI Brain. Her confusion improved with thiamine supplementation but had persistent weakness. 3. A 57-year old woman with lung adenocarcinoma who had progressed on durvalumab began pembrolizumab. Two weeks later, she developed fevers, rash, and lethargy. She was treated supportively but continued to worsen until neurological workup revealed limbic hyperintensities on MRI Brain and CSF pleocytosis with +HSV1. She had minor clinical improvement with acyclovir but remained cognitively debilitated.

Conclusions

Given frequently complex clinical circumstances when working up n-irAEs, a systematic approach and a broad differential must be utilized for this important intersection of cancer neurology and immunology.

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Giant Cell Arteritis of the Superior Mesenteric Artery Presenting With Wernicke Encephalopathy From Thiamine Deficiency

Sarah Shapiro, David Renner, Ludovica Farese

Objective

N/A.

Background

Giant cell arteritis (GCA) is one of the most common systemic vasculitides in adults over the age of 50 with incidence ranging from 15 to 35 per 100,000 individuals. The disorder is often included in the differential diagnosis of maladies producing atypical facial pain, headache, visual loss, amaurosis fugax, jaw pain, elevated inflammatory markers, and anemia. GCA is typically known to affect cranial arteries with physical exam findings of tenderness to palpation of the temporal arteries and cranial neuropathies. Clinical diagnosis is further supported by new headache, temporal artery abnormality, elevated ESR (= 50 mm/h), and abnormal artery biopsy.

Design/Methods

N/A.

Results

A 68-year-old female with history of primary generalized seizures presented to clinic with a 6-week history of paroxysms of acute confusional episodes, the inability to arise from a seated position due to lower extremity weakness bilaterally, alterations of consciousness without loss of consciousness, severe anorexia, and weight loss. MRI with contrast including Axial FLAIR/T2/Diffusion revealed bilateral pan-lobar cortical and subcortical atrophy with ex-vacuo ventriculomegaly and mild leukoaraiosis in the subcortical white matter tracts. PET-CT body revealed linear uptake involving the aortic root, extending into subclavian arteries bilaterally with segmental involvement of proximal common carotids, and extending inferiorly to the level of the common iliac arteries and the mesenteric arteries. Temporal artery biopsy revealed presence of granulomas with multinucleated giant cells.

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