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## Type and frequency of immune-related adverse reactions in patients treated with Pembrolizumab, a monoclonal antibody directed against PD-1, in advanced melanoma at *Mayo Clinic in Jacksonville, Florida* (or a single institution?)

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**Background:** Although immune checkpoint inhibitors improve survival in patients with melanoma and other cancers, the alterations to the immune system induced by these medications can trigger immune-related adverse reactions. Documented immune-related adverse reactions of pembrolizumab include pneumonitis, immune-mediated colitis, hepatitis, endocrinopathies, and nephritis. The purpose of this abstract is to identify the type and frequency of immune-related adverse reactions in patients treated with pembrolizumab at our institution.

**Methods:** We conducted a retrospective chart review of 74 patients who received pembrolizumab therapy to treat melanoma at *Mayo Clinic in Jacksonville, Florida*, between September 2014 and May 2016. The notes from the patients' initial oncologic evaluations and all subsequent follow-up visit notes during their treatments with pembrolizumab were evaluated. We focused on patient complaints, symptoms, physical exam results, and treatment plans. Referrals to subspecialists and hospitalization records were also reviewed if applicable and available. Complaints and adverse reactions were grouped by organ system for detailed analysis. Treatment with glucocorticoids was also recorded.

**Results:** 74 charts were reviewed, and 69 patients had advanced melanoma and were treated with at least 1 cycle of pembrolizumab. Please refer to the table below for the type and frequency of identified immune-related adverse reactions. Rheumatology was consulted on 3 patients. One patient with a history of Raynaud's disease was evaluated for hand pain with swelling. This patient was treated with prednisone prior to evaluation, which effectively treated the pain, but there was still residual, diffuse swelling of the hands and limited extension of the wrists bilaterally, but no synovitis was identified. This patient had elevated ANA 1:1 and anti-histone antibody 1:1. Another patient had recurrent episodes of diarrhea and abdominal pain that required admission to the hospital for large-vessel vasculitis after a computed tomography scan showed thickening of the abdominal aorta and ileum as well as ileal dilation that was suggestive of ischemia due to vasculitis of the superior mesenteric artery. Finally, one patient had history of seronegative RA who was in remission and no longer taking hydroxychloroquine and had no flare ups during pembrolizumab treatment.

**Conclusion:** We found that the incidence of significant adverse events was higher than reported in the populations treated with pembrolizumab, including a never-reported case of large-vessel vasculitis.

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