

A case of Durvalumab-induced immune-related adverse event in a patient with ankylosing spondylitis

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Introduction: Durvalumab is a monoclonal antibody that inhibits programmed cell death ligand-1 (PD-L1), inducing an anti-tumor immune response by blocking immune checkpoints. These treatments are inevitably associated with an autoimmune response by interfering with the balance of self-tolerance and immunity. Herein, we report a rare case of Durvalumab-induced immune-related adverse events (irAEs) in a patient with underlying ankylosing spondylitis.

Case report: A 79-year-old male patient visited the rheumatology clinic due to arthralgia in both knees, both ankles, and the right 1st MTP joint that had developed two months ago. He also reported scleral erythema in the right eye with blurred vision (Figure1-A), and ulcerative skin rash on both lower legs (Figure1-B). He had been diagnosed with ankylosing spondylitis thirty years ago and had recently finished chemotherapy for non-small cell lung cancer at another hospital. Synovial fluid analysis of the left knee joint showed a white blood cell count of 11,000/mm³ (80% polymorphonuclear cells), and no bacterial pathogen was isolated. The serum C-reactive protein was 4.79 mg/dL, and the rheumatoid factor was 15 IU/ml. The results of the anti-cyclic citrullinated peptide antibody and anti-neutrophil cytoplasmic antibody were negative. A bone scan revealed intensely increased radiouptakes at right 1st MCP joint, left wrist joint, bilateral knee joints, both ankle joints, and right 5th MTP joint (Figure1-C). Upon ophthalmological examination, nodular scleritis was diagnosed in the right eye. The initial impression was a flare of peripheral spondylitis with extra-articular manifestations; however, we diagnosed an irAE after checking the treatment history of Durvalumab, which had been administered until one month ago. After 10 days of Prednisolone 30 mg/day treatment, articular and extra-articular symptoms had been greatly relieved.

Conclusion: Patients with underlying autoimmune diseases could show enhanced irAEs after using immune checkpoint inhibitors, which may sometimes present with different autoimmune features from the existing disease.

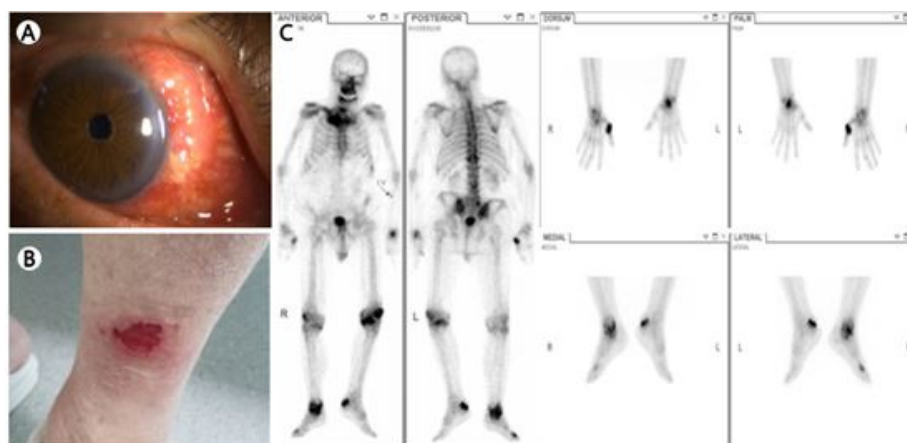


Figure 1 Photographical and Bone scan appearance of immune-related adverse events. ¹
 A: Patient's right eye, Nodular scleritis and scleral erythema with blurred vision. B: Ulcerative skin rash on lower leg. C: Bone scan revealed intensely increased radiouptakes at right 1st MCP joint, left wrist joint, bilateral knee joints, both ankle joints, and right 5th MTP joint.