Pembrolizumab-Induced Psoriatic Arthritis in a Patient with Gastric Cancer

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Immune checkpoint inhibitor (ICI)-induced rheumatic immune-related adverse events (irAEs) have been infrequently reported, and the treatment of severe or refractory ICI-induced arthritis has not been established yet. We report a case of pembrolizumab-induced psoriatic arthritis (PsA) treated with disease-modifying anti-rheumatic drugs (DMARDs) in a patient with gastric cancer. A 67-year-old man with a medical history of well-controlled foot psoriasis presented with polyarthralgia. He was administered pembrolizumab for microsatellite instability-high metastatic gastric adenocarcinoma treatment 3 months previously. Physical examination showed erythematous swelling at the distal interphalangeal joints, left shoulder, and both knees. He had plaque psoriasis with psoriatic nail dystrophy and dactylitis in the distal joints of the fingers and toes. Laboratory tests revealed elevated C-reactive protein and erythrocyte sedimentation rate but were negative for rheumatoid factor and anticyclic citrullinated peptide antibody. Synovial fluid analysis revealed an inflammatory effusion, and magnetic resonance imaging showed synovial enhancement of the knee joint. The patient was diagnosed with PsA and started on methylprednisolone 1 mg/kg/day after discontinuation of pembrolizumab. However, despite 2 weeks of methylprednisolone, his PsA worsened, and he was subsequently treated with leflunomide and methotrexate. After 4 weeks of steroid treatment, his PsA worsened and improved repeatedly according to the steroid tapering. Therefore, the therapy was intensified to include etanercept known as tumor necrosis factor inhibitor, ultimately resulting in adequate control of his PsA. This is the first report to be issued regarding PsA caused by ICI in patients with gastric cancer. The patient had refractory severe arthritis requiring conventional and biologic DMARD therapy. Because ICIs are used with increasing frequency in patients with gastric cancer, there is a need for increased awareness of these rheumatic irAEs by oncologists, dermatologists, and rheumatologists, and coordinated multidisciplinary management is mandatory.