New Onset of Inflammatory Polyarthritis in a Patient Taking Adalimumab

To the Editor:

Rare cases of paradoxical adverse effects associated with the use of tumor necrosis factor-α (TNF-α) antagonists have been reported. We describe a case of new-onset inflammatory polyarthritis associated with the use of adalimumab in the treatment of Crohn's disease (CD).

A 64-year-old woman with a 10-year history of CD presented with a new onset of symmetrical polyarthritis while being treated with adalimumab. Previous treatment for CD included oral budesonide, prednisone, 5-aminosalicylic acid, and azathioprine; surgery for bowel obstruction had occurred 10 years earlier. Her history was significant for bilateral carpal tunnel release 3 years previously; there was no other history of arthritis, including peripheral arthritis, dactylitis, enthesitis, or axial complaints. The treatment regimen of adalimumab was 160 mg on Day 1, 80 mg on Day 15, and 40 mg every 2 weeks thereafter. She was not taking any other medications known to induce polyarthritis. After 12 weeks of therapy, she developed acute severe "muscle pain" in the upper and lower extremities. She denied muscle weakness. Joint swelling was reported as "absent" by another clinician, but she had some "joint pain." There were no associated fevers, rashes, or prodromal illnesses. Laboratory tests showed a positive antinuclear antibody of 1:160 titer (extractable nuclear antigen and anti-dsDNA were negative), rheumatoid factor of 8 kIU/l, C-reactive protein of 48 mg/l (normal ≤ 7 mg/l), erythrocyte sedimentation rate 15 mm/h, and hemoglobin 119 g/l (anti-cyclic citrullinated peptide measurement was not available). Platelet count and liver function tests were normal. She did not fulfill 4 or more classification criteria for systemic lupus erythematosus. Her adalimumab was discontinued immediately. She described her Crohn's condition to be well controlled while undergoing therapy with adalimumab. After discontinuation of adalimumab, she had no recurrence of gastrointestinal symptoms, but continued to have "severe muscle discomfort" and was referred to a rheumatologist (CT) for assessment.

On examination, she had palmar erythema, which she reported as long-standing. A general system examination was unremarkable. No skin, scalp or nail lesions of psoriasis, mucosal lesions, or hepatosplenomegaly were noted. She denied articular morning stiffness. Grip strength was 180/170, right-handed. Active joint count included 40 tender with 14 swollen joints. The swollen joints were in the small joints of both hands, both wrists, and right elbow with a 20° flexion deformity, both knees with a bulge sign, and stress pain in the ankles. No enthesitis or dactylitis was noted, and axial examination was noncontributory. Decreased range of motion of both shoulders was noted. Her power was limited by pain. Her presentation was consistent with a systemic (autoimmune) inflammatory arthritis. She was started on intraarticular corticosteroid and methotrexate subcutaneously 25 mg/wk, for management of the inflammatory arthritis. Her inflammatory arthritic condition has improved on followup, at 3 months (tender joint count 9, swollen joint count 0).

To our knowledge, this is the first case report of new-onset inflammatory polyarthritis in a patient treated with adalimumab for Crohn's disease. Psoriasis[1-4], exacerbation of rheumatoid arthritis[5], and development of CD[6] following TNF-α antagonist therapy have been reported. The underlying mechanism of these paradoxical adverse effects of anti-TNF agents is unclear. Further similar cases are needed in order to state that inflammatory polyarthritis should be included among the paradoxical adverse effects of anti-TNF agents.

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