

Radiographic Improvement in Sarcoid Arthropathy after Infliximab Treatment

To the Editor:

We describe our experience on the use of infliximab in sarcoid arthropathy and partial reversal of the typical radiographic changes seen in sarcoid arthropathy after treatment.

A 35-year-old African American man presented 5 years ago with bilateral hand arthritis, dactylitis, and a shiny, fleshy growth over the tip of the nose. Examination revealed bilateral proximal interphalangeal joint synovitis and severe deformity and resorption of the distal interphalangeal joints with dystrophic nail changes and diffuse dactylitis. The fleshy growth was indicative of a sarcoid-specific “lupus pernio” presentation, confirmed by skin biopsy, showing noncaseating granulomas. Chest radiography showed paratracheal and bilateral hilar lymphadenopathy without

parenchymal disease. Laboratory evaluation revealed elevation of erythrocyte sedimentation rate (ESR) and angiotensin converting enzyme (ACE). Hand radiographs showed several circumscribed, corticated digital lytic bone lesions that could be suggestive of intraosseous sarcoid granulomas. A characteristic “lacy reticular” bone pattern, a hallmark of sarcoid arthropathy, with marginal bone erosions, was also seen. He was initially treated with nonsteroidal antiinflammatory drugs (NSAID), oral corticosteroids, and methotrexate (MTX), with minimal clinical response. Intravenous infliximab 5 mg/kg every 8 weeks was added 3 years ago, titrated up to 7 mg/kg after 1 year. Small-joint synovitis of the hands was decreased and ACE levels, ESR, and C-reactive protein levels all normalized. Dactylitis improved and the lupus pernio size decreased with treatment. Infliximab treatment was complicated by transient neutropenia that resolved after withholding 2 consecutive infusions and altering MTX dosage.



Figure 1. Hand radiographs before (left) and after (right) infliximab treatment. Note decrease in size of lytic bone lesions (arrows) and resolution of lacy reticular pattern (circles).

Repeat radiographic assessment 3 years after initiation of infliximab and intermittent MTX combination treatment demonstrated disappearance of the lacy reticular pattern and some improvement of the lytic digital lesions. Several lytic bone lesions significantly decreased in size, possibly reflecting granuloma contraction (Figure 1). As well, no new bone erosions were observed in the followup radiograph.

To our knowledge, this is the first report of reversal of radiographic lesions in sarcoid arthropathy after treatment with infliximab. A report by Huang, *et al* demonstrated clinical improvement, although with no mention of a radiographic improvement¹.

Radiographic findings include lytic lesions. They present either as minute cortical defects or large punched-out cysts involving the heads of middle and proximal phalanges. Lace-like trabecular pattern and cystic changes in the phalangeal joints are characteristic of sarcoid arthropathy. Distal tuft destruction can be seen in advanced cases. Subchondral lesions that extend into joint spaces can lead to joint involvement.

There is a paucity of controlled studies in sarcoid arthritis in regard to treatment. NSAID, corticosteroids, and MTX have all been tried with various degrees of success².

Several reports have suggested efficacy of the tumor necrosis factor- α (TNF- α) antagonists in refractory sarcoidosis, including sarcoid arthritis, with a potential differential beneficial response to infliximab over the other TNF inhibitors, as well as placebo^{1,3,4,5,6,7,8}. There have also been studies demonstrating that infliximab is superior to systemic corticosteroids in treating lupus pernio⁹. But there have also been rare reports of paradoxical development of biopsy-proven sarcoidosis after use of TNF antagonist for other indications, which resolved after discontinuation of the biologic agent¹⁰. Controlled studies are needed to carefully study infliximab's efficacy and safety in sarcoid arthropathy.

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