Whole-body Magnetic Resonance Imaging Evaluation of Widespread Inflammatory Lesions in a Patient with Ankylosing Spondylitis Before and After 1 Year of Treatment with Infliximab

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Whole-body magnetic resonance imaging (MRI) in patients with ankylosing spondylitis (AS) can detect widespread inflammatory bony lesions[1-3], and there is clear evidence that anti-tumor necrosis factor (TNF) therapy is highly effective in AS[4]. We describe a patient with AS who complained of weight loss and symptoms of inflammatory back pain, enthesitis, and peripheral arthritis at multiple sites [initial Bath AS Disease Activity Index (BASDAI) 7.5, erythrocyte sedimentation rate (ESR) 72 mm/h, C-reactive protein (CRP) 5.2 mg/dl]. Infliximab 5 mg/kg was administered at 0, 2, and 6 weeks and every other 8 weeks for 1 year. To evaluate widespread inflammatory lesions, we performed Whole-body MRI using a special 1.5 Tesla scanner (Avanto, Siemens) before and after 1 year of infliximab

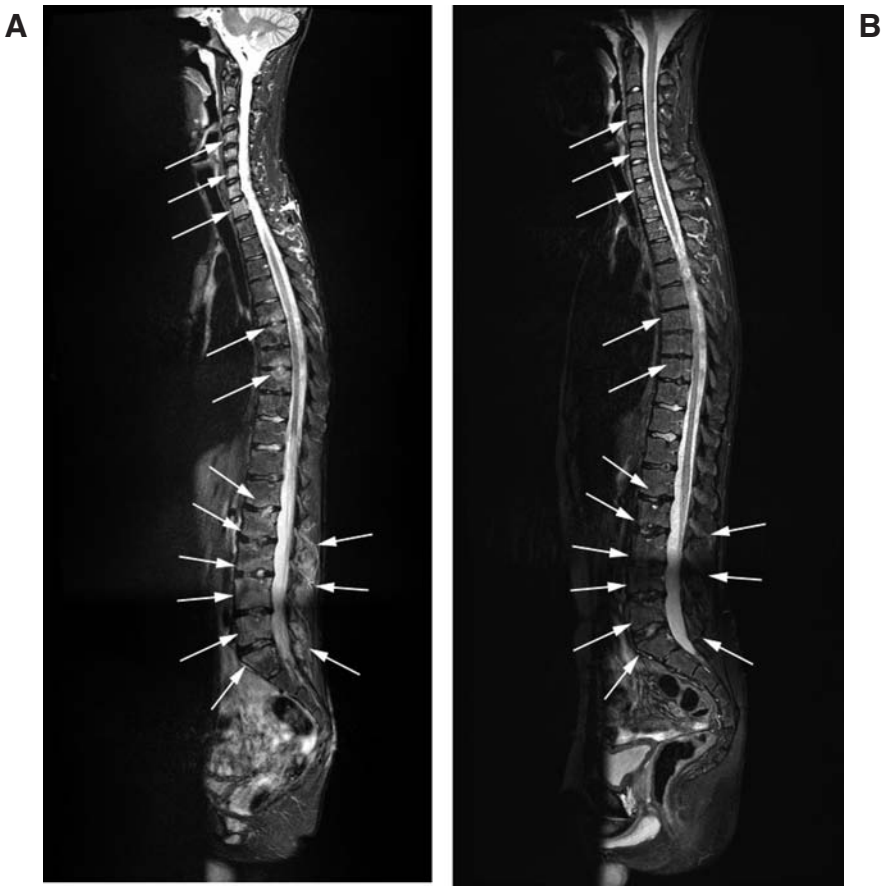

Figure 1. A. Whole-body MRI before therapy detected extensive erosive inflammatory spondylitis in segments C5–T1, T6/T7, T8/T9, and L1–L5 and acute inflammation of various facet joints in the lumbar spine (arrows).

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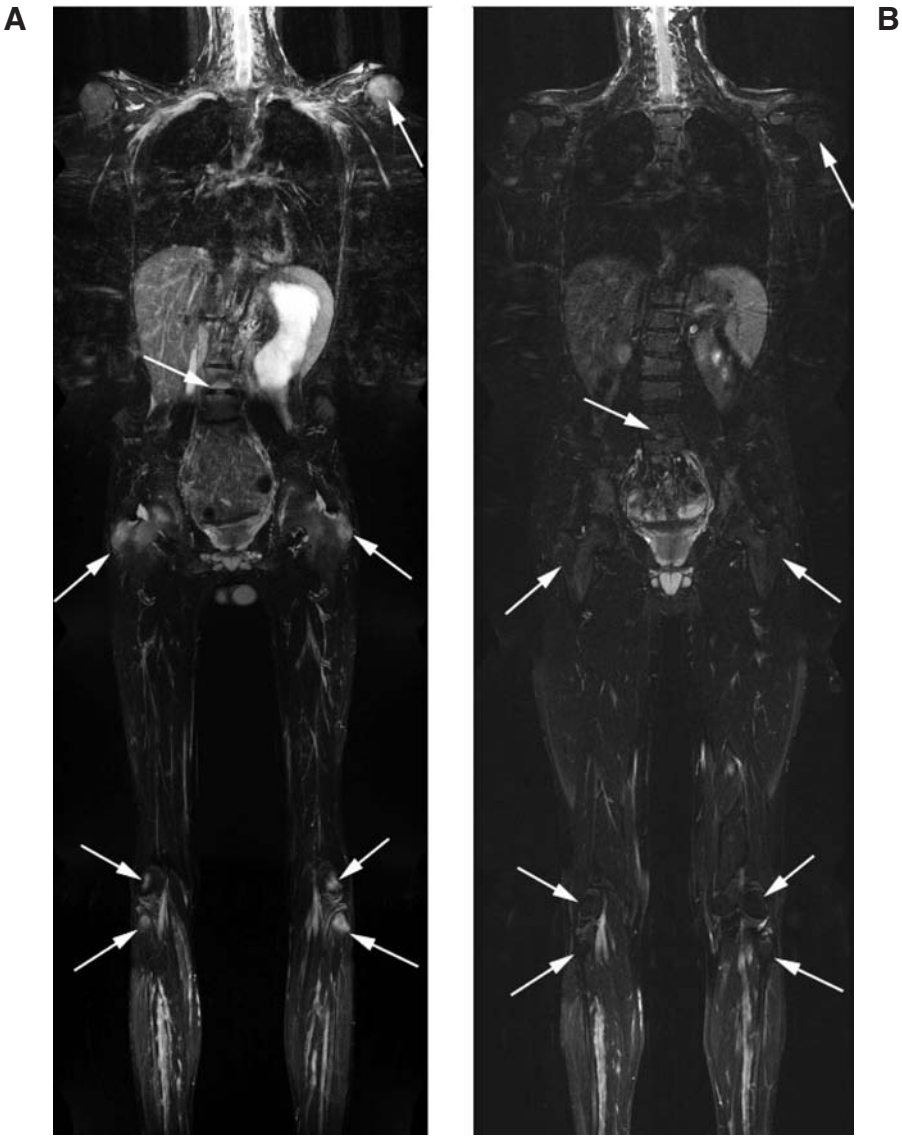

Figure 2. A. Bone marrow edema and joint effusion were seen in both knees, hip joints, and left shoulder (arrows).

therapy. The patient responded well to therapy, not complaining about any inflammatory back pain or clinical signs of enthesitis or arthritis; body weight increased by 17 kg (BASDAI 0.2, ESR 10 mm/h, CRP 0.06 mg/dl).

Whole-body MRI before therapy detected extensive erosive inflammatory spondylitis in segments C5–T1, T6/T7, T8/T9, and L1–L5 and acute inflammation of various facet joints in the lumbar spine (Figure 1A, arrows). Besides acute inflammation both sacroiliac joints showed chronic changes (not shown). Bone marrow edema and joint effusion were seen in both knees and hip joints (Figure 2A, arrows). Acute inflammation was visible at several sites of tendon insertions. When whole-body MRI was performed after 1 year, it revealed tremendous improvement of these inflammatory lesions (Figures 1B, 2B). Only small residuals of inflammation were seen at some sites of the spine. Enthesitis had clearly improved.

This report demonstrates that osteitis at appendicular sites and synovitis responds equally well to TNF-blockers in comparison to osteitis in the spine and pelvis.

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