

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

HEINER APPEL, MD, Department of Gastroenterology, Infectiology and Rheumatology, Charité Berlin, Campus Benjamin Franklin, Berlin; KAY-GEERT A. HERMANN, MD, Department of Radiology, Charité Berlin, Campus Mitte, Berlin; CHRISTIAN E. ALTHOFF, MD, Department of Radiology, Charité Berlin, Campus Mitte, Berlin; MARTIN RUDWALEIT, MD, Department of Gastroenterology, Infectiology and Rheumatology, Charité Berlin, Campus Benjamin Franklin, Berlin; JOACHIM SIEPER, MD, Department of Gastroenterology, Infectiology and Rheumatology, Charité Berlin, Campus Benjamin Franklin, Berlin, Germany. Address reprint requests to Dr. Appel. E-mail: heiner.appel@charite.de. Dr. Appel and Dr. Hermann contributed equally to this report. (First Release Oct 15 2007; J Rheumatol 2007;34:2497–8)

Whole-body magnetic resonance imaging (MRI) in patients with ankylosing spondylitis (AS) can detect widespread inflammatory bony lesions¹⁻³, and there is clear evidence that anti-tumor necrosis factor (TNF) therapy is highly effective in AS⁴. We describe a patient with AS who complained of weight loss and symptoms of inflammatory back pain, enthesitis, and peripheral arthritis at multiple sites [ini-

tial 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

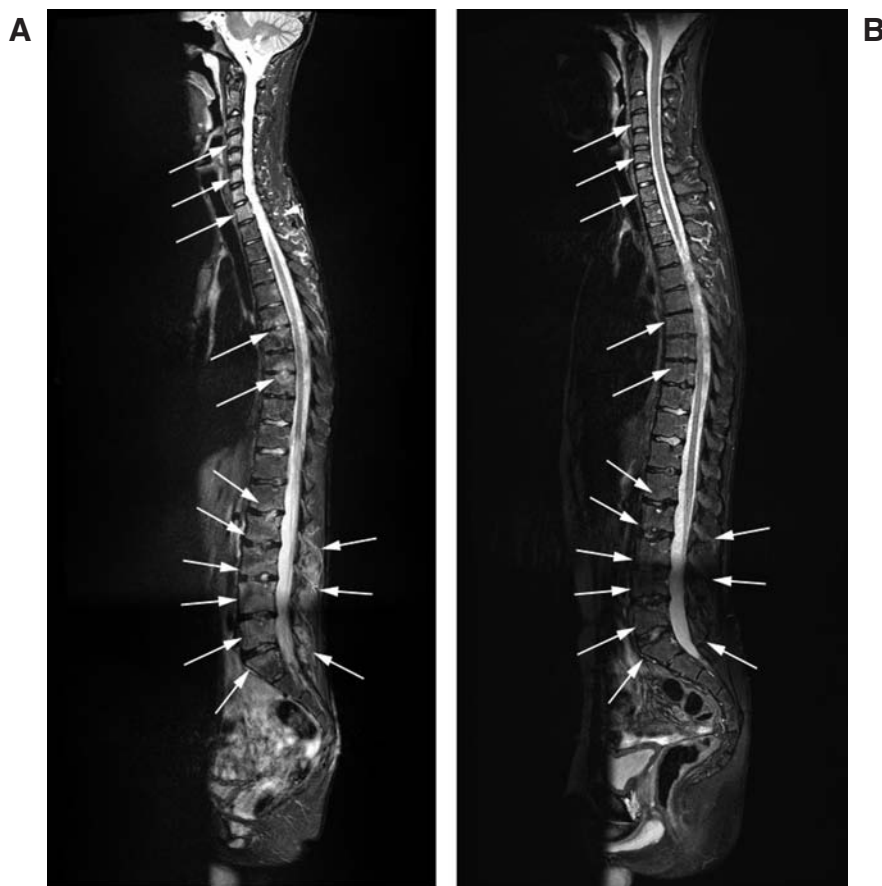


Figure 1. A. Whole-body MRI before therapy detected extensive erosive inflammatory spondylitis in segments C5–T1, T6/T7, T8/T9, and L1–L5 and acute inflammation of various facet joints in the lumbar spine (arrows).

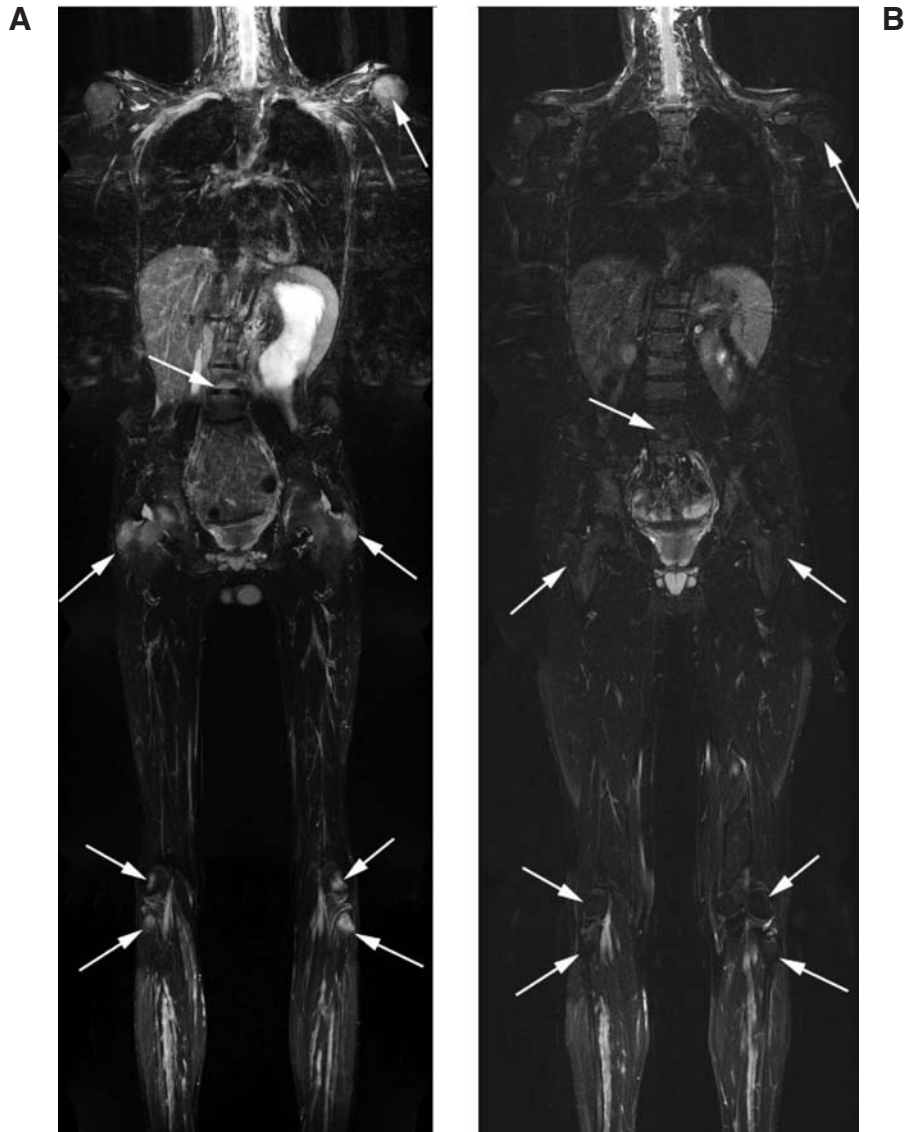


Figure 2. A. Bone marrow edema and joint effusion were seen in both knees, hip joints, and left shoulder (arrows).

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.

REFERENCES

1. Althoff CE, Appel H, Rudwaleit M, et al. Whole-body magnetic resonance imaging as a new screening tool for both axial and peripheral manifestations in spondyloarthritis. *Ann Rheum Dis* 2007;66:983-5.
2. Hermann KG, Eshed I, Bollow M. Imaging of enthesitis: A new field for the radiologist? *Rofo* 2006;178:578-89.
3. Eshed I, Bollow M, McGonagle DG, et al. Magnetic resonance imaging of enthesitis of the appendicular skeleton in spondyloarthritis. *Ann Rheum Dis* 2007; Epub ahead of print, doi:10.1136/ard.2007.070243.
4. Braun J, Sieper J. Biological therapies in the spondyloarthritis — the current state. *Rheumatology Oxford* 2004;43:1072-84.