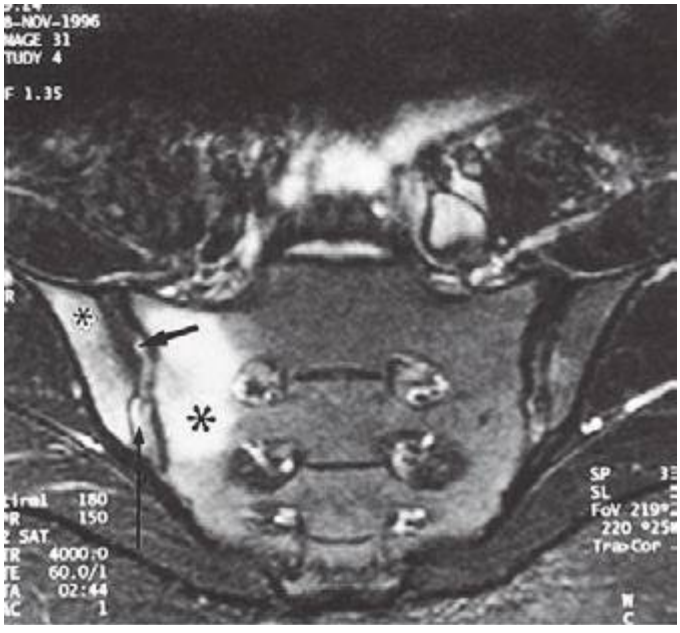

FIGURE 384-1 Early sacroiliitis in a patient with ankylosing spondylitis, indicated by prominent edema in the juxtaarticular bone marrow (*asterisks*), synovium and joint capsule (*thin arrow*), and interosseous ligaments (*thick arrow*) on a short tau inversion recovery (STIR) magnetic resonance image. *(From M Bollow et al: Zeitschrift für Rheumatologie 58:61, 1999. Reproduced with permission.)*

or mild cases. In 2009, new criteria for axial SpA were proposed by the Assessment of Spondyloarthritis International Society (ASAS) (Table 384-1). They are applicable to individuals with ≥3 months of back pain with age of onset <45 years old. Active inflammation of the sacroiliac joints as determined by dynamic MRI is considered equivalent to definite radiographic sacroiliitis (see below).

AS must be differentiated from numerous other causes of low-back pain, some far more common than AS. To qualify as the criterion for inflammatory back pain of axial SpA (Table 384-1), the chronic (≥3 months) back pain should have four or more of the following characteristic features: (1) age of onset <40 years old; (2) insidious onset; (3) improvement with exercise; (4) no improvement with rest; and (5) pain at night with improvement upon getting up. Other common features of inflammatory back pain include morning stiffness >30 min, awakening from back pain during only the second half of the night, and alternating buttock pain. In clinical decision-making, all of these features are additive. The most common causes of back pain other than AS are primarily mechanical or degenerative rather than primarily inflammatory and tend not to show clustering of these features.

Less-common metabolic, infectious, and malignant causes of back pain must also be differentiated from AS, including infectious spondylitis, spondylodiskitis, and sacroiliitis, and primary or metastatic tumor. Ochronosis can produce a phenotype that is clinically and radiographically similar to AS. Calcification and ossification of paraspinous ligaments occur in *diffuse idiopathic skeletal hyperostosis* (DISH), which occurs in the middle-aged and elderly and is usually not symptomatic. Ligamentous calcification gives the appearance of "flowing wax" on the anterior bodies of the vertebrae. Intervertebral disk spaces are preserved, and sacroiliac and apophyseal joints appear normal, helping to differentiate DISH from spondylosis and from AS, respectively.

TREATMENT ANKYLOSING SPONDYLITIS

All management of AS should include an exercise program designed to maintain posture and range of motion. Nonsteroidal anti-inflammatory drugs (NSAIDs) are the first line of pharmacologic therapy for AS. These agents reduce pain and tenderness and increase mobility in many patients with AS. There is mounting evidence that continuous high-dose NSAID therapy slows radiographic progression, particularly in patients who are at higher risk for progression. However, many patients with AS have continued symptoms despite NSAID therapy and are likely to benefit from anti-TNF-α therapy. Patients with AS treated with infliximab (chimeric human/mouse anti-TNF-α monoclonal antibody), etanercept (soluble p75 TNF-α receptor–IgG fusion protein), adalimumab, or golimumab (human anti-TNF-α monoclonal antibodies, or certolizumab pegol [humanized mouse anti-TNF-α monoclonal antibody]) have shown rapid, profound, and sustained reductions in all clinical and laboratory measures of disease activity. In a good response, there is significant improvement in both objective and subjective indicators of disease activity and function, including morning stiffness, pain, spinal mobility, peripheral joint swelling, CRP, and ESR. MRI studies indicate substantial resolution of bone marrow edema, enthesitis, and joint effusions in the sacroiliac joints, spine, and peripheral joints (Fig. 384-2). Similar results have been obtained in large randomized controlled trials of all four agents and

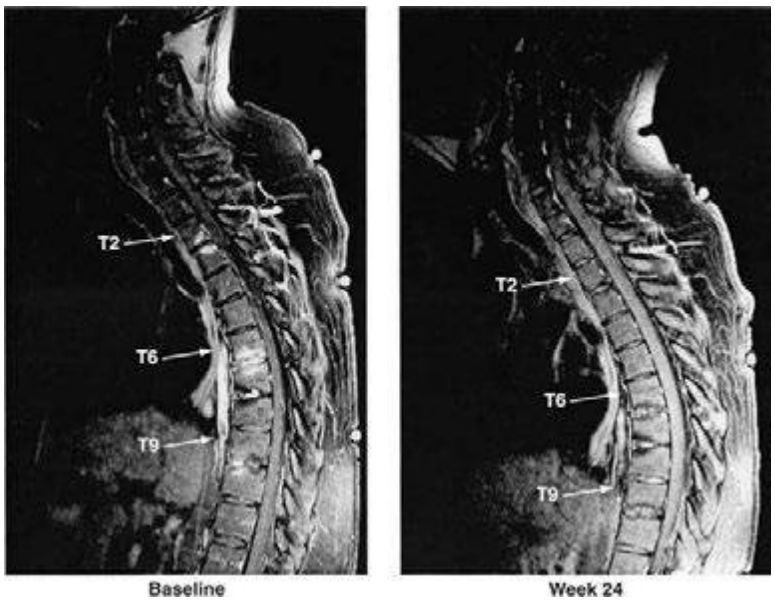

FIGURE 384-2 Spinal inflammation (spondylodiskitis) in a patient with ankylosing spondylitis and its dramatic response to treatment with infliximab. Gadolinium-enhanced T1-weighted magnetic resonance images, with fat saturation, at baseline and after 24 weeks of infliximab therapy. *(From J Braun et al: Arthritis Rheum 54:1646, 2006.)*