The main extraspinal manifestations of AS, peripheral enthesitis and arthritis, are usually diagnosed clinically, but ultrasound and MRI may be helpful. Dr. Xenophaon Baraliakos, Rheumazentrum Ruhrgebiet, Ruhr-University Bochum, Germany, stated that "despite limitations, scintigraphy of the sacroiliac joint (SIJ) is a useful screening method for detecting bony or entheseal inflammation." The overall sensitivity for the detection of active sacroiliitis is 95% to 100% for MRI, 48% to 71% for scintigraphy, and 19% to 33% for conventional radiography. Conventional radiography is still the most common method employed for the diagnosis of AS, as well as AS related structural spinal changes, such as syndesmophytes and ankylosis. Dr. Baraliakos presented data showing that examination of the spine with MRI is useful in assessing inflammatory changes or for diagnosis of early and active stages of the disease. MRI sequences useful for assessing active disease are the STIR (short *tau* inversion recovery), the T2-fat saturated, and the T1 post-adolinium MRI sequence. The thoracic spine is the most commonly affected area in AS. For assessment of structural changes in this area, the T1-weighted MRI sequence is used (*Ann Rheum Dis.* 2005;64:1462-6; 2004;63:1046-55; *Arthritis Rheum.* 2005;52:1756-65; 52(4):1216-23; *Magn Reson Imaging.*1999; 42:695-703).


Philip Lang, MD

Dr. Philip Lang, Department of Radiology, Harvard Medical School, Cambridge, MA, believes MRI has the potential to detect signal and morphological changes in the cartilage associated with OA if used with targeted visual scoring methods and targeted quantitative techniques. "By using a scoring system designed to capture entire spectrums of cartilage disease, not only late disease, scoring subsegments within each compartment, and using a focal assessment targeted to the disease area, we can maximize the scoring system sensitivity to change." said Dr Lang. (*Arthritis Rheum.* 2002;46:2065-72).

Prof. Philip Conaghan, University of Leeds, Leeds, UK, and Prof. Desiree Van der Heijde of the University Hospital Maastricht, Netherlands, session Co-Chairs, closed by expressing the opinion that diagnosis and management of inflammatory disease is going through exciting changes, in part due to the advances in diagnostic and imaging techniques.

Clinical Aspect of Ankylosing Spondylitis

According to Dr. Robert Landewé, University Hospital Maastricht, Netherlands, "In ankylosing spondylitis (AS), unlike in RA, the relationship between clinical disease activity and signs of the disease as shown by imaging tools, is still very unclear. We expect that inflammation of the spine as measured by clinical tools is associated with inflammation as seen on MRI and leads to the formation of syndesmophytes, however the evidence for that is pretty scarce." Recent work by Dr. Landewé and colleagues suggests that short *tau* inversion recovery (STIR) MRI imaging of inflammatory lesions in the spine provides on average the same information as gadolinium-enhanced T1-weighted imaging with fat saturation. Dr. Landewé recommends doing STIR and saving TI/gad for non-typical cases.

Two Studies Highlight Key Aspects

Dr. Désirée van der Heijde University Hospital, Maastricht, Netherlands, presented the results of a an open-label, long-term extension study

which investigated the effects of two years of treatment with etanercept (25 mg twice weekly) on radiographic progression in patients with AS. Cervical and lumbar spine x-rays, performed at baseline and after 2 years, were compared with x-rays from subjects in the Outcome in AS International Study (OASIS) taken in the same time frame. In this study, although clinical findings demonstrate sustained, durable benefits with long-term etanercept therapy, x-ray evaluations suggested that progression of structural damage continued. The results of this study indicate that the effect of etanercept treatment beyond 2 years on progression of structural damage warrants further study.

Dr. Marte Heiberg, Diakonhjemmet Hospital, Oslo, Norway, presented the results of a study that compared the one-year survival rates of TNF-blocking agents in patients with RA, PsA and AS, which showed that anti-TNF+methotrexate (MTX) performed better than anti-TNF monotherapy in patients with RA and PsA. Data from 1168 patients (RA n=796; PsA n=161; AS n=211) who received treatment with TNF-blocking agents were analyzed. Crude overall survival rates for anti-TNF treatment were assessed in a Kaplan-Meier analysis, with adjustments for age, gender and treatment regimen in a Cox regression analysis. RA was used as the reference group. Within each diagnostic group survival rates were compared between anti-TNF monotherapy and TNF+ MTX, adjusting for age and gender.

Crude one-year survival rates for anti-TNF treatment in patients with RA, PsA and AS were 67.1%, 78.3% and 82.1%, respectively ($p<0.001$ for both PsA and AS vs RA). Within the respective groups 65%, 68% and 35% received concomitant MTX. The Relative Risk (95%CI) for withdrawal from TNF+MTX versus anti-TNF monotherapy was 0.54 (0.42, 0.69) in RA patients, 0.49 (0.25, 0.96) in PsA patients, and 0.83 (0.42, 1.62) in AS patients. After adjustments for age, gender, and treatment regimens the survival rates were still superior in patients with AS vs RA, whereas the survival rates were similar in patients with RA and PsA.

Ankylosing spondylitis is the most severe of the diseases that make up the spondyloarthritides (SpA) and new approaches to assessment and treatment have been the subject of much interest over the last few years. Both clinicians and patients stand to benefit from this research.

Spondyloarthritis: State of the Art

The SpA are a group of diseases which includes AS, reactive arthritis, arthritis/spondylitis with inflammatory bowel disease or psoriasis, and undifferentiated spondyloarthritis (*Ann Intern Med.* 2002;136:896–907). As a group, the SpA are one of the most common rheumatic diseases with a prevalence in the general population of 0.5–1.9% (*Rheum Dis.* 2004;63:535–543).

Dr. John Davis, University of California, San Francisco, CA, introduced the term "axial SpA", which he believes perfectly describes the disease continuum consisting of the early phase of spondylitic disease without radiographic sacroiliitis (or axial undifferentiated SpA (uSpA) and the relatively later phase AS).

Common features of these diseases include: enthesopathy, absence of radiographic sacroiliitis, and positive family history. Clinical features include: achilles tendonitis, plantar fasciitis, dactylitis, mononuclear cell infiltration including T-cells & macrophages, increase in inflammatory cytokines including IL-1, IL-6, TNF-α, subchondral bone inflammation and resorption, and periosteal new bone formation.