diameter, smoking status and HLA-B27. There was predominance of male (81%), Caucasoid (75%), non-smoking (64%) and positive HLA-B27 (75%) patients, with dorsal spine involvement in 58%. Mean age was 40 years and mean disease duration was 16 years.

Results There were five patients (10%) with an altered plain chest radiography. PFT presented a restrictive pattern in 52% of the patients. Thoracic HRCT showed abnormalities in 21 patients (40%), predominantly nonspecific linear parenchymal opacities (19%), lymphadenopathy (12%), emphysema (10%), bronchiectasis (8%) and pleural involvement (8%). Male sex was statistically associated with dorsal involvement ($p = 0.012$). Non-Caucasoid race was associated with bronchiectasis ($p = 0.044$) and pleural involvement ($p = 0.044$) at the thoracic HRCT. Smoking patients presented more linear parenchymal opacities ($p = 0.026$) at the thoracic HRCT. Negative HLA-B27 was associated with an altered plain chest radiography ($p = 0.011$). Dorsal spine involvement was associated with restrictive pattern at PFT ($p = 0.001$) and linear parenchymal opacities ($p = 0.032$) at the thoracic HRCT. A lower thoracic diameter was observed in patients with dorsal spine involvement ($p = 0.0001$), restrictive pattern at PFT ($p = 0.023$) and linear parenchymal opacities ($p = 0.015$) at the thoracic HRCT.

Conclusion Subclinical pulmonary involvement is frequent in AS. The restrictive pattern at PFT is associated with dorsal spine involvement and a low thoracic diameter, whilst the thoracic HRCT presents a series of nonspecific alterations, predominating the linear parenchymal opacities.

SAT0019 COMPARISON OF DIFFERENT IMAGING TECHNIQUES IN THE DIAGNOSIS OF SPONDYLARTHROPATHIES

¹N Arıtan, ¹P Atagündüz, ²T Biren, ³HT Turoğlu, ¹H Direskeneli. ¹Rheumatology; ²Radiology; ³Nuclear Medicine, University of Marmara, Faculty of Medicine, Istanbul, Turkey

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Background Diagnosis of radiological sacroiliitis is difficult in the early stages with plain radiographs. Advanced methods such as computed tomography (CT), scintigraphy and magnetic resonance imaging (MRI) are suggested for this purpose.

Objectives To compare the role of different imaging techniques in the diagnosis of spondylarthropathy (SpA) patients with inflammatory low back pain.

Methods Thirty-four sacroiliac joints in 17 SpA patients who fulfilled the 1984 European Spondylarthropathy Classification Criteria and had inflammatory low back pain were investigated. Plain radiography, quantitative scintigraphy and MRI were performed for sacroiliac imaging. Plain radiography findings were evaluated blindly by a radiologist and rated on a 0–5 scale according to the modified New York criteria for radiological sacroiliitis. Quantitative sacroiliac scintigraphy was performed with Tc-99m hydroxy methylene diphosphonate (HMDP) and sacroiliac joint/sacrum uptake ratio for each joint was its sacroiliac index (SII). The value of SII >136 was considered as sacroiliitis. The patients also underwent MRI of sacroiliac joints with FSE T2 and SE T1 weighed images.

Results Among SpA patients the sensitivity of scintigraphy, MRI and plain radiography was 79%, 59% and 32% respectively. In 32% of 34 sacroiliac joints in which sacroiliitis was demonstrated with scintigraphy, no pathologic changes were present with MRI. On the other hand, 6% of joints were positive with MRI, but negative with scintigraphy. In cases where plain

radiography showed normal radiographs, scintigraphy showed abnormalities in 44% while MRI showed abnormalities in only 18% of the joints. We couldn't find any relationship between the sacroiliac index and plain radiography scores.

Conclusion These results suggest that the sensitivity of scintigraphy was higher than plain radiography and MRI, especially in early sacroiliitis patients with SpA.

SAT0020 SERUM NITRIC OXIDE, CATALASE, SUPEROXIDE DISMUTASE, XANTHINE OXIDASE AND MALANDIALDEHYDE STATUS IN PATIENTS WITH ANKYLOSING SPONDYLITIS

¹S Özgöçmen, ¹O Ardicoglu, ²S Sogut, ¹I Pekutucu, ³E Fadillioğlu, ²O Akyol. ¹Physical Medicine and Rehabilitation, Firat University, Faculty of Medicine, Elazığ; ²Biochemistry; ³Physiology, Inonu University, Faculty of Medicine, Malatya, Turkey

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Background

Objectives In this study serum antioxidant and oxygen derived free radical status of patients with ankylosing spondylitis (AS) has been investigated and compared with age and sex matched healthy controls.

Methods Thirty patients fulfilling the New York criteria for AS and age and sex matched 16 healthy control subjects were included in the study. Patients who were smoking, under the treatment of DMARDs or any other drugs (except NSAIDs informally used by the patients) excluded.

Catalase (CAT) (EC 1.11.1.6) activity was measured by the determination of rate constant of hydrogen peroxide decomposition. Total (Cu-Zn and Mn) SOD (EC 1.15.1.1) activity was determined by the method based on the inhibition of NBT reduction by the xanthine-xanthine oxidase system. Malandialdehyde (MDA) levels determination was based on the coupling of MDA with thiobarbituric acid (TBA) at +95 °C. XO (EC 1.2.3.2) activity was measured spectrophotometrically by the formation of uric acid from xanthine through the increase in absorbency at 293 nm. Nitrite (NO₂⁻) and nitrate (NO₃⁻) were estimated as an index of NO production. Quantitation of nitrate and nitrite was based on the Griess reaction, in which a chromophore with a strong absorbency at 540 nm is formed by reaction of nitrite with a mixture of naphthylethylenediamine and sulphanilamide.

Results Patients had significantly higher MDA and CAT activity with respect to controls. CAT activity of patients correlated significantly with CRP and ESR levels.

Conclusion Our results indicate that MDA and CAT activity increase in patients with AS, and CAT activity may be related to disease activity.

SAT0021 THE INCIDENCE OF VARICOCELES IN PATIENTS WITH ANKYLOSING SPONDYLITIS EVALUATED BY PHYSICAL EXAMINATION AND COLOUR DOPPLER SONOGRAPHY

¹S Özgöçmen, ²E Kocakoc, ²A Kiris, ³A Ardicoglu, ¹O Ardicoglu. ¹Physical Medicine and Rehabilitation; ²Radiology; ³Urology, Firat University, Faculty of Medicine, Elazığ, Turkey

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Background A varicocele is an abnormal tortuosity and dilation of the testicular veins within the spermatic cord. The incidence of varicocele in AS, which affects predominantly young male individuals, is unknown.

Objectives We proposed to assess the incidence of varicocele in AS evaluated by physical examination and colour doppler ultrasonography (CDU). Sperm parameters of these patients were also investigated and compared with controls.

Methods Thirteen untreated male patients (ages 18–40) with AS and age matched healthy 12 male subjects (ages 18–39) included in the study. Testicular veins in both groups were studied with CDU and semen samples were analysed.

Results Eight of the patients evaluated with physical examination had varicoceles (all grade II, 5 left side, 3 bilateral). Only two subjects in control group had grade II varicocele on the left side and both were asymptomatic. Colour doppler evaluation of the testicular vessels in patients with AS revealed grade II varicocele (6 left side, 3 bilateral) in 9 of the patients (69,2%) examined. Semen parameters were within normal limits in 7 patients, and there were altered sperm count and quality in 6 patients.

Conclusion The high incidence of varicocele in patients with AS may be explained by chronic inflammatory low-back pain that brings about reduced extensor muscle strength that causes compensatory increase in intra-abdominal pressure. This may cause a mechanical overload to the testicular vessels. Secondly, vasodilator effect of nitric oxide that was activated by inflammatory process.

SAT0022 SUCCESSFUL TREATMENT OF PATIENTS WITH SEVERE UNDIFFERENTIATED SPONDYLOARTHROPATHY WITH THE ANTI-TNFA ANTIBODY INFlixIMAB

¹J Brandt, ²H Haibel, ³J Sieper, ⁴J Braun. ¹Nephrology; ²Gastroenterology/Rheumatology; ³Gastroenterology/Rheumatology, German Rheumatology Research Center, Benjamin Franklin Hospital, Free University, Berlin; ⁴Rheumatology, Rheumazentrum Ruhrgebiet, Herne, Germany

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Background Anti-TNF α therapy has been successfully used in patients with active ankylosing spondylitis (AS; A&R June 2000). Whether this treatment is also efficacious in patients with undifferentiated spondyloarthropathies (uSpA), the second most frequent SpA subset, has not been assessed to date.

Objectives To test the efficacy of the monoclonal anti-TNF α antibody infliximab in patients with severe uSpA.

Methods Six uSpA patients (4 male, 2 female) with a median age of 36 years (range 19–49) were diagnosed according to the 1991 ESSG criteria. The median disease duration was 6.2 years (1.2–35 years). They had been refractory to other therapies including NSAIDs, steroids and sulfasalazine and were treated with infliximab in an open observational way at week 0, 2 and 6 and followed up for 12 weeks. Three patients received infliximab in a dosage of 3 mg/kg and the other three received 5 mg/kg. The leading clinical symptoms were peripheral arthritis (n = 6), inflammatory back pain (n = 6) and enthesitis of the heels (n = 4). HLA B27 was positive in 5/6 patients. No patient had sacroiliitis > grade II unilateral. The Bath AS disease activity index (BASDAI), the functional index (BASFI), pain on a visual analogue scale (VAS), and the Bath AS Metrology Index (BASMI) were assessed before, during and after therapy. Quality of life was measured using the Short Form (SF) 36 instrument.

Results All patients improved after 1–3 days. There was a more substantial response in the group treated with 5 mg/kg infliximab than in the 3 mg/kg group. The range of the BASDAI in the 5 mg/kg group was 7.0–7.6 (3 mg/kg-group: 7.7–8.6) before and 6 weeks after the third infusion 0.7–2.7 (3 mg/kg-group: 1.7–7.8). The functional index also improved in all but one patient:

the BASFI values had decreased from 7.0–7.6 in the 5 mg/kg group (3 mg/kg-group: 6.7–8.5) to 0.8–2.7 (3 mg/kg-group: 0.8–8.4). Pain on a VAS improved in the 5 mg/kg group from 7.1–7.7 (3 mg/kg-group: 5.1–9.0) to 0.8–2.6 (3 mg/kg-group: 1.2–8.1). Joints, entheses and spinal symptoms improved equally. CRP levels dropped from <6.0–120 mg/l before therapy to <6.0–15.6 mg/l at week 12. No side effects occurred. There was improvement in all 8 SF-36 concepts assessed at baseline and at week 12; the improvement was significant for the concepts bodily pain and vitality.

Conclusion These data suggest that anti-TNF α therapy has significant short-term efficacy in severe uSpA. Infusions with 5 mg/kg infliximab might be more effective than 3 mg/kg in SpA patients. Since it is known that 30–50% of uSpA patients develop AS over time it seems worthwhile to study whether this can be prevented by anti-TNF α therapy.

SAT0023 HLA GENE POLYMORPHISM IN PSORIATIC ARTHRITIS (PSA)

¹S Perrot-Andre, ²A Ramouneau-Pigot, ²Y Fontana, ¹J Sany, ²JF Eliaou, ¹B Combe. ¹Rheumatologie; ²Immunologie, Lapeyronie, Montpellier, France

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Background Psoriasis is known to be associated with HLA component (HLA-B*13, B*17, Cw*06 and DRB1*07). However few data exist on HLA association with PsA especially using highly sensitive HLA-Cw, DR and DQ typing methods.

Objectives The aim of this work was to study the distribution of HLA alleles in PsA patients in comparison with unrelated controls from the same geographic area.

Methods 69 patients (35 males, 34 females) were included according to modified Avila criteria. A first control group was composed of 328 healthy individuals (random controls: RC). Because alleles at the B and Cw loci are in strong linkage disequilibrium, 60 control individuals matched with patients for HLA-B alleles were selected (matched controls: MC). All the individuals were typed for HLA-A and B by microlymphocytotoxicity and for HLA-Cw, DRB1 and DQB1 by PCR-SSP after geno-mic DNA extraction of peripheral blood nucleated cells. The significance of differences in phenotype frequencies was determined by Fischer's exact test.

Results No significant difference in the HLA-B allele distribution exists between patients and MC. Disease expression of the PsA patients was as follows: skin psoriasis in 100%, axial PsA in 37.7%, asymmetric oligoarthritis in 15.9%, symmetric polyarthritis in 34.8% and asymmetric polyarthritis in 46.4% of the patients. HLA-A*01 (p = 0.0011), B*27 (p = 0.03), B*38 (p = 0.003) and B*57 (p = 0.03) were significantly increased, whereas HLA-A*11 (p = 0.017) and B*18 (p = 0.0019) were significantly decreased in PsA patients compared to RC. 34.4% of the PsA patients carried Cw*0602 compared to 11% in RC (p = 0.003). No difference of DRB1 and DQB1 allele frequencies could be evidenced. When PsA patients and MC were compared no difference of HLA class I and class II allele frequencies was shown except for a significant increase of Cw*0102 in patients (p = 0.0025). Early onset of PsA (as well as psoriasis) was significantly associated with Cw*0602 (p = 0.01) and DRB1*07 (p = 0.03). No association between spondylitis (axial PsA) with and B*27 was observed. Finally, although the sample size is small (10 patients), severe forms of disease were significantly associated with HLA-B*38 (p = 0.0035).