Poster Session 3

Spondylarthropathies: clinical aspects

296. FIVE YEAR OUTCOME FOLLOWING THE ONSET OF INFLAMMATORY POLYARTHRITIS IN THOSE WITH AND WITHOUT PSORIASIS: RESULTS FROM THE NORFOLK ARTHRITIS REGISTER

C. Morgan[1], S. Mottram[1], D. Bunn[2], D.P.M. Symmons[1], A.J. Silman[1]. *[1]ARC Epidemiology Unit, Manchester University, Manchester, United Kingdom; [2]NOAR, Norfolk and Norwich University Hospital, Norwich, United Kingdom*

Background: It is unclear whether there is a difference in prognosis between patients with psoriatic arthritis (PsA) and those with other forms of inflammatory polyarthritis (IP). In part, this represents variability in the definition of PsA in clinical studies. We have previously reported that, in an unselected inception cohort of subjects with IP, there was little difference in outcome at one year between 51 with, and 915 without psoriasis [1]. We have now investigated in a larger cohort whether any differences in clinical status exist after 5 years.
Methods: We compared the clinical status after five years follow-up of 120 consecutive subjects with IP recruited to the Norfolk Arthritis Register (between 1990-1997), who had documented psoriasis on examination at any stage during the follow-up with 740 subjects who had neither history nor examination findings of psoriasis. The outcomes investigated were: tender (TJC) and swollen joint counts (SJC), the HAQ and the SF36.
Results: As expected those with psoriasis were less likely to be ever positive for rheumatoid factor [26% vs 39%, p=0.008]. Those with psoriasis were younger at onset [median age (range): 49 (17-84) vs 54 (18-90) years] and more likely to be male [44% vs 31%, p=0.004]. Interestingly, those with psoriasis were more likely to be taking a DMARD at 5 years [49% vs 31%, p<0.001]. All subsequent analyses were adjusted for age, gender and treatment and the results expressed as odds ratios (95% CI). At five years, those with psoriasis were more likely to have one or more tender joint: OR 1.72 (1.1-2.7), p=0.02, or three or more both swollen and tender joints: OR 1.7 (1.02-2.85), p=0.04. There were no differences in the median HAQ scores and the only difference in the 8 domains of the SF36 was for social function, in which those with psoriasis were more likely to have a poor status: OR 3.6 (1.9-7.0), p=<0.001.
Conclusions: There were some interesting differences in the outcomes considered between those with and without psoriasis in this large population sample. At five years there was more likely to be evidence of some continuing synovitis although this did not manifest as a difference in disability. The influence on social functioning might reflect the stigma attached to having the skin disorder rather than any effect from the arthritis. The lower frequency of RF in those with psoriasis does not lead to a better clinical outcome at five years.

Reference

[1] Harrison et al, J. Rheumatol. 1997; 24:9:1744-1749.

297. AN INVESTIGATION OF PIIINP AS A MARKER OF HEPATIC FIBROSIS IN PSORIASIS: DOES THE ARTHRITIS AFFECT PIIINP LEVELS?

K. Lindsay, A. Gough, A. Layton, M. Goodfield, S. Fraser. *Rheumatology, Harrogate District Hospital, Harrogate, West Yorkshire, United Kingdom; Dermatology, Harrogate District Hospital, Harrogate, West Yorkshire, United Kingdom; Dermatology, Leeds General Infirmary, Leeds, West Yorkshire, United Kingdom*

Background: Dermatology guidelines for monitoring methotrexate therapy in psoriasis suggest a liver biopsy every 1 to 1.5grammes cumulative dose of methotrexate. Rheumatologists do not routinely liver biopsy. Dermatologists have developed a serum marker of collagen turnover, Procollagen III N terminal peptide (PIIINP) as a marker of hepatic fibrosis in psoriatic skin disease, to reduce the need to perform liver biopsies. PIIINP is found in the joint fluid in active arthritis and has been reported as elevated in active psoriatic arthritis. We investigated its relation to liver histology and joint disease activity.
Methods: We recruited 48 psoriasis patients under joint review by dermatologists and rheumatologists, who were scheduled to have a liver biopsy performed to monitor long-term methotrexate from Oct 2002 to Dec 2003. 45 have had a liver biopsy to date. All patients were clinically assessed for joint disease activity by tender joint count, swollen joint count and entheseal index. This was compared to the serum PIIINP level on the day of the assessment, prior to liver biopsy. CRP was also measured.
Results: There were 44 patients with treated psoriatic arthritis and 4 with psoriasis alone. 25 patients had one or more of the following: 5 or more swollen joints, 5 or more painful joints or an entheseal index greater than 5. 4 of those with active arthritis had an elevated PIIINP versus 8 without. 45 liver biopsies have been performed. Four patients had early hepatic fibrosis (9%), 11 (24%) patients had moderate to severe steatohepatitis, whilst 30 liver biopsies were normal. There was no relation to tender or swollen joint count or entheseal index and PIIINP level. PIIINP was above normal in 12 cases. Only 2 of those cases had hepatic fibrosis. CRP was not statistically related to joint disease activity or PIIINP level.
Conclusions: This group of patients are representative of those under follow-up by rheumatologists across the UK with psoriatic arthritis treated with long term methotrexate. Previous studies in psoriasis have recommended serial PIIINP monitoring up to 3 times annually from commencement of methotrexate and that normal PIIINP values exclude hepatic fibrosis. In this study the PIIINP level was unaffected by the presence or severity of arthritis. Single elevated levels did occur but failed to reliably distinguish those with hepatic fibrosis. Regular PIIINP monitoring may still be of use in psoriatic arthritis. Better non-invasive methods of detecting liver disease are in development.

298. ULTRASONOGRAPHY IN PATIENTS WITH PSORIATIC ARTHRITIS: CORRELATION WITH OTHER OBJECTIVE DISEASE ACTIVITY MEASURES

Z. Karim[1], R.J. Wakefield[1], A. Fraser[1], S. Jarret[1], M. Quinn[1], A.K. Brown[1], B.A.C. Dijkmans[2], P. Emery[1], D. Veale[1]. *[1]Academic Unit of Musculoskeletal Medicine, Department of Rheumatology, Leeds General Infirmary, Leeds, West Yorkshire, United Kingdom; [2]Rheumatology, VU University Medical Centre, Amsterdam, The Netherlands*

Background: This study set out to assess the ability of Ultrasonography (US) as a marker of disease activity and an outcome measure in Psoriatic Arthritis (PsA). US is more sensitive than clinical examination for the detection of synovitis and more sensitive than X-ray for the detection of erosions. There are limited data however for US assessing response to DMARD therapy or progression of disease in PsA.
Methods: As part of a 12 month, multi-centre, double-blind, placebo controlled, randomized trial conducted at 3 centres, patients at one centre had regular US assessment included as part of the study protocol. In the study active PsA patients with an incomplete response to Methotrexate (MTX) were recruited and randomized to receive either MTX or placebo (placebo group) or MTX and Cyclosporin A (CyA group). Assessment involved full clinical examination with metrology for tender (TJC) and swollen joint count (SJC), and laboratory tests. Ultrasonography of the dominant MCP and PIP joints was performed at 0 and 54 weeks and scored for synovitis and bone erosions. The primary outcome was reduction in US synovitis at completion of the study (week 48) in placebo and CyA groups compared with reduction in CRP. Other measures included comparing; changes in US synovitis with changes in joint counts, and increase in erosion scores between treatment groups.
Results: 20 patients completed the study; 11 in the placebo and 9 in the CYA group. See Table 1 for mean baseline measures. There was deterioration in US synovitis (US Syn) (17%), and CRP (22%) in the placebo group, although an improvement in TJC (18%) and SJC (27%). There was an improvement in all disease activity measures in the CyA group; US Syn (48%), CRP (22%), TJC (25%) and SJC (29%). There was a greater increase in the number of erosions; 15 in the placebo compared with 4 in the CyA group.

Baseline measures

	US Synovitis	CRP	TCJ	SJC	US Erosions
Placebo n=11	6	18	27	9	3
CyA n=9	5	23	26	12	2

Figures are expressed as means

Conclusions: There was greater improvement in outcome measures in the CyA compared with placebo group. Changes in US synovitis scores reflect changes in other disease measures. This small study suggests, US limited to a few joints, has potential in monitoring response to therapy in psoriatic arthritis.

299. ANTI-CYCLIC CITRULLINATED PEPTIDE ANTIBODIES ARE A MARKER OF DISEASE SEVERITY IN PSORIATIC ARTHRITIS

E. Korendowych, P.A. Owen, J. Lewis, C.R. Carmichael, J. Ravindran, N.J. McHugh. *Department of Research and Clinical Effectiveness, Royal National Hospital for Rheumatic Diseases, Bath, United Kingdom*

Background: Antibodies recognising a cyclic citrullinated peptide (anti-CCP) have been shown to be highly specific (up to 98%) for rheumatoid arthritis (RA). They are present early in the disease process and are predictive of erosive damage especially in seronegative RA. This study investigates the prevalence and prognostic value of these antibodies in psoriatic arthritis (PsA) using the second generation (CCP2) ELISA.
Methods: 126 patients with psoriatic arthritis were recruited (mean age 51±13 yrs, 57M:69F) with a mean disease duration of 14 ±11 yrs. Patients with seropositive RA (n=40) and normal controls (n=40) were used for comparison of results. Clinical information collected prospectively on the patients included clinical subgroup, tender and swollen joint scores, the psoriasis area severity index (PASI), nail score and the presence of radiological erosions. Patients were also tested for HLA-DR alleles, the presence of the RA 'shared epitope' and Rheumatoid Factor (RF). The presence of anti-CCP antibodies was tested with the second generation (CCP2) ELISA (Axis Shield).
Results: 7/126 (5.6%) of patients with PsA were positive for anti-CCP antibodies compared with 0/40 controls and 39/40 patients with RA. 11/126 PsA patients, 40/40 RA patients and 2/40 controls were positive for RF. Only 2 patients with PsA were positive for both anti-CCP antibodies and RF. Anti-CCP positive patients with PsA had significantly more swollen joints than anti-CCP negative patients (8.3 vs 3.4, p=0.002) but there was no difference in the subgroup distribution (4/7 polyarthritis, 3/7 oligoarthritis and 1/7 spondyloarthritis). All 7 anti-CCP positive patients were on a DMARD compared with 61% of anti-CCP negative patients (p=0.049). All 7 anti-CCP positive patients were erosive compared with 61% of anti-CCP negative patients (p=0.047). 6/7 of the positive patients exhibited classical radiological features of PsA including DIP joint disease, new bone formation and sacroiliitis. There was a strong correlation between anti-CCP antibodies and the presence of the HLA-DRB1 'shared epitope' (SE) (7/7 compared with 43% of anti-CCP negative patients, p=0.004). Presence of RF alone was only predictive of a higher tender joint count and did not show any of the above associations.
Conclusions: Overall, the frequency of anti-CCP antibodies in PsA does not differ from a control population. However, the few patients who are positive have increased swollen joints, DMARD use, erosions and possess at least one copy of the HLA-DRB1 'shared epitope'. The distribution of subgroups is equivalent in both the anti-CCP positive and negative patients. Anti-CCP positive patients with PsA exhibit a more severe phenotype that is not clinically or radiologically like RA.

300. MEASUREMENT OF ENTHESITIS IN PSORIASIS AND PSORIATIC ARTHRITIS: COMPARISON OF THE NEWCASTLE ENTHESITIS INDEX AND THE MAASTRICHT ANKYLOSING SPONDYLITIS ENTHESITIS SCORE

M.J. Bridges[1], N.J. Reynolds[2], L.J. Kay[1]. *[1]Department of Rheumatology, Newcastle Hospitals NHS Trust, Newcastle upon Tyne, Tyne & Wear, United Kingdom; [2]Department of Dermatology, University of Newcastle, Newcastle upon Tyne, Tyne & Wear, United Kingdom*

Background: Enthesitis is a common feature of spondyloarthropathies, causes considerable morbidity, is not routinely measured and is difficult to treat. We describe the frequency of enthesitis in patients with Psoriatic Arthritis (PsA), patients with psoriasis alone (Ps) and control subjects, comparing 2 published methods. Previous work in AS has shown that the Newcastle Enthesitis Index (NEI) [1] is reproducible in clinical use [2] but that the Maastricht Ankylosing Spondylitis Enthesitis Score (MASES) [3] may be more practical as it is shorter, using a subset of the NEI. Such comparative work has not previously been undertaken in PsA.
Methods: 100 consecutive patients with Ps attending dermatology outpatients and 100 controls with non-inflammatory skin disorders were assessed (MB), using a standard proforma to record NEI and MASES. Self-rated pain and physician global assessments were recorded using visual analogue scales.
Results: 58/200 patients were identified as having enthesitis using NEI: 38 Ps cases and 21 controls. MASES identified 30 patients with enthesitis: 23 Ps cases and 7 controls. 34 patients were female.
Median NEI score was 2 (range 1-28), for all subjects, with a non-significantly higher score for Ps cases (3, 1-28) compared to controls (2, 1-19), p=0.19. Median MASES score was 0 (0-6), for all subjects, with a non-significantly higher score for Ps cases (1, 0-3) compared to controls (0,0-6), p=0.2. Neither score was affected by gender or presence of inflammatory arthritis. A positive MASES score in this group was associated with a higher frequency of PsA (p=0.04) and a higher self-rated pain score [median 29(2-81) vs. 19(0-86) p=0.02] but no difference in physician global assessment (p=0.36). Sites of enthesitis missed by MASES included the humeral condyles (8 patients, 1 bilateral), the plantar fascia (7, 1 bilateral), the fibular or tibial condyles (11) and the greater trochanter (4), many of which were rated as moderate or severe on the NEI.
Conclusions: The frequency of enthesitis is high, as previously shown [4], more so in Ps cases than controls. However, clinical examination underestimates the frequency of enthesitis compared to ultrasound [5]. An accurate tool to identify enthesitis is therefore important.
NEI records enthesitis severity as well as frequency, unlike MASES, and is sensitive to change [1]. MASES selects those with more severe enthesitis, although some common sites and some severe cases are missed. There is a trade-off between usability and precision. Choice of instrument will depend on the purpose of the study.

References

[1] ARD 1987;46:197.
[2] A&R 2002 15;47:582.
[3] ARD 2003;62:127.
[4] J Rheum 2003;30:1335.
[5] ARD 2002;61:905

301. THE INFLUENCE OF TOBACCO SMOKING ON DISEASE ACTIVITY AND FUNCTIONAL STATUS IN ANKYLOSING SPONDYLITIS

L.P. Robertson[1], E. Stanley[2], M.J. Davis[2]. *[1]Rheumatology Unit, Bristol Royal Infrimary, Bristol, Avon, United Kingdom; [2]Dept of Rheumatology, Royal Cornwall Hospital, Truro, Cornwall, United Kingdom*

Background: To assess the influence of tobacco smoking and quantity smoked on progression of disease activity and functional impairment in a hospital cohort of patients with Ankylosing Spondylitis.
Methods: Questionnaires on detailed smoking histories were posted to a cohort of Ankylosing Spondylitis (AS) patients (pts) selected consecutively from a specialist clinic if ≥3 Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) questionnaires were completed between 1995 and 2001. Pts were telephoned if questionnaires were not returned. The proportion of pts who were currently smoking, had ever or never smoked were calculated. Pack year history (pk yr hx) for each pt was calculated. The effect of smoking on the longitudinal BASDAI and BASFI data was examined comparing the mean change in BASDAI/BASFI and the mean area under the curve (AUC) BASDAI/BASFI in ever smokers and non-smokers, in current smokers and non-smokers (unpaired t-tests). The pack year histories were correlated with the change in BASDAI/BASFI and the AUC BASDAI/FI. Sub-group analysis was performed to assess if smoking was associated with any specific disease characteristics (chi-square test, Pearson correlation).
Results: Questionnaires were sent to 74 pts from the original cohort. After telephone follow up data was available on 70, mean age 48.9±11.2 yrs, mean disease duration 21.1±10.7 yrs. 32 pts (46%) had axial disease alone, 38 (54%) axial and peripheral joint disease (PJD) (including hip). 21 pts (30%) were current smokers, 49 (70%) ever smokers, 21 (30%) non-smokers. Median pk yr hx for ever smokers was 15.2 (range 0.2 – 122.8), current smokers 20 (range 1 – 123). There were no significant differences between the mean changes in BASDAI/BASFI and mean AUC BASDAI/FI when comparing ever smokers and non-smokers (p=0.15/p=0.64, p=0.88/p=0.54 respectively) or current smokers and non-smokers (p=0.39/0.33, p=0.94/0.65 respectively). There was a positive correlation between the change in BASFI and pk yr hx for the whole cohort (r=0.30, p=0.01). More axial disease alone pts were currently smoking (p=0.01) or had ever smoked (p=0.059) than patients who had additional PJD. There was also a positive correlation between the change in BASFI and pack year history for axial disease alone pts (r=0.36, p=0.05).
Conclusions: In this hospital cohort, axial disease alone was associated with a greater likelihood of currently smoking or having ever smoked. There was a positive linear relationship between the change in BASFI over time and the quantity of tobacco exposure for the whole cohort and for pts with axial disease alone. This suggests that in AS pts without PJD who smoke, functional impairment develops more rapidly and therefore they are at risk for poor long-term prognosis.

302. FUNCTIONAL IMPAIRMENT IN PSORIATIC ARTHRITIS

L. Williamson, N. Dalbeth, J.L. Dockerty, R. Weatherall, P. Wordsworth. *Rheumatology Department, Nuffield Orthopaedic Centre, Oxford, Oxon, United Kingdom; ICRF/NHS Centre for Statistics in Medicine, Institute of Health Sciences, Oxford, Oxon, United Kingdom*

Background: We aimed to study the functional status of patients with psoriatic arthritis (PsA) and determine the clinical factors associated with functional impairment.
Methods: We studied 103 outpatients with PsA. Patients were considered to have PsA if they had a seronegative inflammatory arthritis and psoriasis. A detailed history was obtained about progress and pattern of arthritis, and a full musculoskeletal and skin examination was undertaken. Patients completed the Health Assessment Questionnaire (HAQ), and the ACR global functional class was recorded. Anxiety and depression were assessed using the Hospital Anxiety and Depression scale. Of 103 invited, 68 patients underwent further evaluation of axial disease with detailed clinical assessment of spinal movements and sacroiliac joint disease, and magnetic resonance imaging (MRI) of the sacro-iliac joints. HLA-B27 was tested by PCR sequence specific primers. Data were analysed using pair-wise correlation and multivariate stepwise standard regression.
Results: The mean HAQ was 0.7 (SD 0.7). Overall, highest scores were detected in the grip, reach and activities components of the HAQ. The mean ACR functional class was 1.6 (SD 0.8). There was a strong correlation between ACR global functional class and HAQ ($r=0.7$, $p<0.01$).
HAQ scores were independently associated with female gender ($p<0.05$), extent of psoriasis ($p<0.01$), unremitting and progressive peripheral arthritis ($P<0.01$), and anxiety and depression scores ($p<0.01$). HAQ scores were not associated with age, disease duration or pattern of arthritis.
In the 68 patients undergoing full spinal assessment, functional impairment as measured by the HAQ was also associated with both restricted cervical spine movements ($P<0.01$) and restricted lumbar spine movements ($p<0.05$). However, neither MRI diagnosed sacroiliitis nor HLA-B27 were associated with HAQ scores.
Conclusions: A diverse range of disease components are related to impaired function in PsA. These factors include peripheral and axial articular disease, skin disease and psychological distress. These data reinforce the need for rheumatologists to have a holistic approach to the management of patients with PsA

303. SACROILIAC JOINT INVOLVEMENT IN PSORIASIS: CLINICAL, RADIOLOGICAL AND COMPUTED TOMOGRAPHY FINDINGS

A.M. Abdel-Nasser[1], O.A. Khalil[2]. *[1]Rheumatology & Rehabilitation, Minia University, Minia, Egypt; [2]Radiolology, Minia University, Minia, Egypt*

Background: Sacroiliac joint (SIJ) involvement varies among the spondyloarthropathies. This study attempts to estimate the prevalence of SIJ involvement in psoriatic patients clinically, radiologically and by Computed Tomography (CT), and to compare those three methods of assessment, as well as to examine correlations between sacroiliitis and other clinical and radiological manifestations of psoriasis.
Methods: A total of 60 SIJ were assessed clinically, by plain radiography (AP pelvis and Ferguson views) and by CT in 30 consecutive psoriatic outpatients. The patients were interviewed and examined clinically and radiologically to determine the presence and severity of rheumatic manifestations and their correlations with sacroiliitis.
Results: Sacroiliitis (SI) was diagnosed clinically in 4 patients (13.3%), being bilateral in 2 patients. By plain radiography, 13 patients (40%) had grade 2 or more SI in one or both joints and 10 patients (33.3%) satisfied the New York criteria for SI (grade 2-4 bilateral or 3-4 unilateral). CT detected grade 2 or more SI in 20 patients (66.7%), 18 of whom (60%) fulfilled the New York criteria. Symmetrical involvement of the SIJ was more common than asymmetrical involvement. Clinical tests, whether considered individually or as a group, did not show significant agreement with radiological and CT methods, and had a very low sensitivity for detecting SI. Plain radiography showed a 70% agreement with CT for the detection of SI ($\kappa = 0.44$, $p<0.001$), and a 55% agreement for the grading of SIJ ($\kappa = 0.40$, $p<0.001$). With reference to CT, plain radiography was very specific but had a moderate sensitivity for diagnosing SI. Sacroiliitis as diagnosed by CT was equally distributed between the sexes and significantly correlated with age, age at onset, disease duration, back pain and stiffness, and the presence of syndesmophytes and ossification in the lumbar spine. Sacroiliitis however was not significantly correlated with buttock pain, spinal mobility, lumbar squaring, peripheral arthritis, enthesopathy, DIP or cervical involvement.
Conclusions: Sacroiliitis, as determined by CT scanning, occurs in two-thirds of psoriasis patients and is independent of the presence of peripheral arthritis or enthesopathy. Clinical tests for SI lack significant agreement with x-ray and CT, are too insensitive and may be misleading. Plain radiography has a significant agreement with CT for the diagnosis and grading of SI and is highly specific but of moderate sensitivity, so that a diagnosis of SI according to the New York criteria on x-ray obviates the use of CT. CT of the SIJ is indicated for patients who do not fulfil the New York criteria on plain x-ray, especially older psoriatic patients with longer disease duration, more severe back pain, morning stiffness, or the presence of lumbar syndesmophytes or ossification on plain x-ray.

304. CAN EARLY DIAGNOSIS AND MANAGEMENT OF COSTOCHONDRITIS REDUCE ACUTE CHEST PAIN ADMISSIONS?

J.E. Freeston[1], Z. Karim[1], K. Lindsay[1], A.K.S. Gough[1,2]. *[1]Rheumatology, Harrogate District Hospital, Harrogate, North Yorkshire, United Kingdom; [2]Academic Department of Rheumatology, Leeds General Infirmary, Leeds, West Yorkshire, United Kingdom*

Background: Costochondritis is a common but often unrecognised cause of acute chest pain. The aim of this study was to identify patients with costochondritis who presented with acute chest pain and record the number of chest pain admissions both pre and post rheumatology review. We also recorded the length of time taken to diagnosis and assessed impact of diagnosis on subsequent management, including estimating any cost benefits that early diagnosis and treatment of costochondritis might confer. This study also introduces sulphasalazine as a potential treatment for recurrent costochondritis.
Methods: This was a retrospective observational study of 25 consecutive patients (17 female), mean age 50 (range 26-75), with costochondritis who initially presented with acute chest pain. Nine of these patients (36%) had costochondritis secondary to conditions such as psoriasis or ulcerative colitis at first presentation.
Results: The mean time to diagnosis was 9.4 months (range 0-57), and the mean number of tender joints 3.4 (range 1-8). The number of chest pain admissions before review was 39 (1-16/patient) compared with 6 (0-3/patient) post review, a significant reduction ($p<0.0001$). The total duration of inpatient stay pre review was 137 days compared with 5 post review ($p<0.01$). The number of minor investigations was 169 pre review compared with 17 post review ($p<0.0001$), and major investigations 30 compared with 0 ($p<0.01$) respectively. All 13 patients treated with corticosteroid injections reported symptomatic improvement, and 10/11 whose symptoms recurred responded to sulphasalazine. Estimated total cost (pounds sterling) was 54,122 pre and 2002.5 post review.
Conclusions: Patients with costochondritis frequently present with acute chest pain, often resulting in multiple admissions and investigations. In this study admission and investigation rates are significantly reduced following rheumatological review. How much of this reduction is directly a result of rheumatological intervention is unclear. Nevertheless this study suggests early review may improve patient care and reduce expenditure. We also suggest that in recurrent cases of costochondritis, sulphasalazine may be of additional long term benefit.

305. USING A MODIFIED SHARP SCORE TO ASSESS RADIOLOGICAL PROGRESSION IN PSORIATIC ARTHRITIS

J. Ravindran[1], C. Carmichael[1], C. Balakrishnan[2], S. Jones[3], E. Korendowych[1], N. McHugh[1]. *[1]Rheumatology, Royal National Hospital for Rheumatic Diseases, Bath, United Kingdom; [2]Rheumatology, P.D.Hinduja National Hospital and Medical Research Centre, Mumbai, India; [3]Rheumatology, University of Wales, Cardiff, United Kingdom*

Background: The modified Sharp score has been adapted for use in psoriatic arthritis (PsA-MS) to include DIP joints and to assess radiological progression in early disease. However, this score has not been validated in psoriatic arthritis and the relationship between the PsA-MS score and clinical indicators of disease activity (construct/criterion validity) is not clear. Furthermore there are few studies documenting radiological progression beyond a median of two years of follow-up. Our objective was to use the PsA-MS score to assess radiological progression in patients with psoriatic arthritis with median follow-up periods of at least five years and to study the relationship between radiological scores and clinical parameters.
Methods: Two sets of AP hand radiographs (median interval 6.5 years) in 76 patients with psoriatic arthritis were analysed. The PsA-MS score was used to calculate erosion and joint space abnormality scores at baseline and follow-up. Standardised joint and HAQ scores at baseline and follow-up (median interval 5 years) were documented. Statistical tests included Wilcoxon signed rank test and Spearman's rank correlation.
Results: 59% had radiological joint damage at baseline. Of these patients 75% had progressed, 18% improved and 7% remained stable at follow-up. An additional 13% patients developed radiological damage. Median erosion, joint space abnormality and combined PsA-MS (erosion + joint space abnormality) scores were significantly greater at follow-up ($p< 0.001$ for all three scores). There was strong correlation between erosion and joint space

abnormality scores at baseline and follow-up (r=0.879 and r=0.892 respectively). There was a strong correlation between combined PsA-MS scores and clinical joint scores at baseline and follow-up (r=0.72 and r=0.81 respectively). There was no evidence of correlation between combined PsA-MS scores and HAQ at baseline (r=0.288), although there was some correlation at follow-up (r=0.48).
Conclusions: Radiological damage is progressive in psoriatic arthritis beyond early disease. PsA-MS score appears to reflect clinical joint disease better than measures of functional outcome

306. ASSESSING INFLAMMATION AND PREDICTING RADIOLOGICAL OUTCOME IN EARLY PSORIATIC ARTHRITIS: ROLE OF ESR, CRP, SERUM AMYLOID A AND CARTILAGE OLIGOMERIC MATRIX PROTEIN

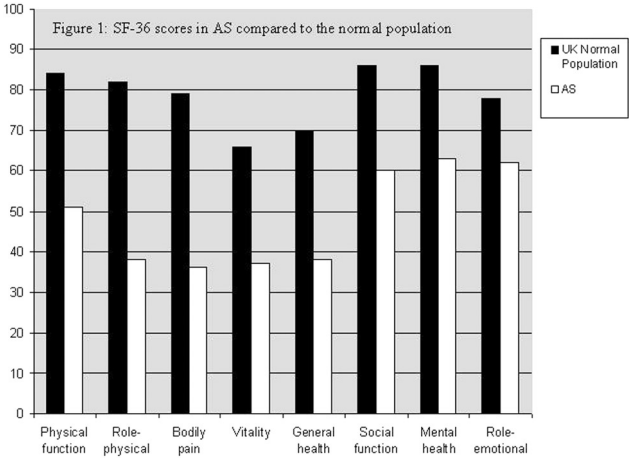
D.J. Kane[1], T. Saxne[2], J.P. Doran[3], B. O'Shea[3], B. Bresnihan[3], O. FitzGerald[3]. *[1]Rheumatology, University of Newcastle, Newcastle, United Kingdom; [2]Rheumatology, University of Lund, Lund, Sweden; [3]Rheumatology, St Vincent's University Hospital, Dublin, Ireland*

Background: PsA is a chronic inflammatory disease in the majority of patients and a subgroup of patients develop severe destructive joint disease. There is limited data on "poor prognosis markers" in early disease. This study compared the erythrocyte sedimentation rate (ESR), serum C-reactive protein (CRP)and acute serum amyloid A (A-SAA) - and cartilage oligomeric matrix protein (COMP) as indices of inflammatory joint disease and as prognostic markers of radiological joint damage in early PsA.
Methods: 110 patients with PsA at the St. Vincent's University Hospital Early Synovitis Clinic underwent standardised clinical and laboratory assessment. A-SAA and COMP were quantified by ELISA of serum, obtained at the time of assessment. Radiographs of the hands and feet were evaluated in chronological order by two trained observers using the Sharp method modified to include the DIP joints.
Results: 110 patients with PsA were assessed [91 (83%) patients at first presentation, 19 (17%) patients at subsequent presentation, 25 (23%) taking a DMARD, 11 (10%) patients in clinical remission, Ritchie Index = 5.4 $\pm$ 6, Swollen joint count = 7.4 $\pm$ 8.2]. The ESR was increased in 47/104 (45%) patients; mean ESR = 19 $\pm$ 21 mm/hr. Serum CRP was increased in 64/102 (63%) patients; mean CRP = 22 $\pm$ 57 mg/l. Serum A-SAA was increased (>20mg/l) in 89/108 (82%) PsA; mean A-SAA = 129.3 $\pm$ 197.5 mg/l. Serum A-SAA was detectable in 21/23 (91%) of psoriasis patients, though the mean SAA concentration (70.3 $\pm$ 81.1 mg/l) was significantly less than that observed in patients with PsA (p=0.006). The ESR had the highest degree of correlation with the clinical joint scores, the HAQ score and the DAS score. COMP correlated weakly with the ESR (r = 0.24, p= 0.01), CRP (r = 0.28, p= 0.006) and A-SAA (r = 0.32, p= 0.001) and with the Ritchie Index, Swollen joint count and DAS. 91/110 patients were assessed at initial presentation: 80/91 had synovitis of the hands and/or feet during the period of study and radiographs were obtained in 72/81 (90%) patients at initial presentation and in 57/81 (71%) at a median follow-up of 18 months. The CRP had a higher correlation with radiological features than the ESR. A-SAA did not correlate with radiological scores. The serum COMP at presentation correlated significantly with the development of erosions (r=0.27, p=0.04).
Conclusions: A-SAA was the most sensitive acute phase marker in PsA, the ESR had the highest degree of correlation with clinical joint scores and CRP correlated best with radiological outcome. COMP levels correlated with the acute phase response and with development of erosions in early PsA.
A-SAA ELISA kits supplied at no cost by Biotrin Ltd., Dublin, Ireland.

307. THE IMPACT OF ANKYLOSING SPONDYLITIS ON QUALITY OF LIFE AND ABILTY TO WORK

N. Barkham, K.O. Kong, A. Fraser, A. Tennant, P. Emery. *Academic Unit of Musculoskeletal Disease, University of Leeds, Leeds, United Kingdom*

Background: Ankylosing Spondylitis is a chronic inflammatory disease of joints and entheses. In contrast to RA, it effects patients in the third decade, when they are economically active. Traditionally, AS has been regarded as an innocuous disorder which does not interfere with quality of life or ability to work. Therapeutic options have been limited until the advent of TNF alpha blockers which have been shown to be a highly effective therapy. Their optimal role in the management of AS has yet to be defined.The objectives of this study were to evaluate Quality of Life and Work Instability, to assess the need for new therapies.
Methods: 325 consecutive clinic attenders with a diagnosis of AS were mailed a postal questionnaire, of whom 246 (76%) returned it. We assessed disease activity (BASDAI), function (BASFI, HAQ), Quality of Life using SF36 and ASQol, and Work Instability using the Work Instability Score (WIS.)
Results: The mean age of the patients who replied to the questionnaire was 51 years and 25% were females. Overall 84% of AS patients were in the working age group (18 – 65 years) with only 56% working in full- (43%) or part- (13%) time while 18% of patients had lost their job because of the disease. Among those 120 who were working, 49% had a BASDAI>40, and had a significantly higher risk of work instability (p<0.001) where 46% showed a WIQ>10, which indicates high risk of job loss.
The SF-36 scores for pain and vitality reflected the severity experienced by those with AS compared with the UK normal population (Figure 1). Their mental health was also adversely affected (mean score of 63$\pm$21). Among the SF-36 subscales assessing participation, limitation of role due to physical health was the worst affected. The disease was shown to have less impact on role-emotional and social functioning although scores were still poorer than that of the UK normal population (Figure 1).



Conclusions: The results demonstrated a poor health status and quality of life in AS patients, notably worse than those published for RA. Despite the disabling nature of the condition, 66% were still in employment. However, 28% of these patients were shown to be currently at moderate risk and 17% at high risk of losing their jobs. Thus, there would be a strong economic argument for therapeutic regimens which could retain this group in work.

308. THE VALUE OF SERUM TYPE III PROCOLLAGEN AMINOPEPTIDE(P3NP) IN MONITORING METHOTREXATE INDUCED LIVER FIBROSIS IN PSORIATIC ARTHRITIS

C.E. Buckley, P.A. Sanders. *Rheumatology Department, South Manchester University Hospitals, Manchester, M20 2LR, United Kingdom*

Background: Methotrexate is one of the most effective drugs in treatment of psoriasis and psoriatic arthritis (PsA) but there are concerns regarding liver toxicity.P3NP has been proposed by some dermatologists as a marker of early liver fibrosis, with a reported sensitivity and specificity of 81 and 62% respectively. While P3NP levels have been shown to be correlated with liver fibrosis of several aetiologies, the evidence that it is an accurate marker of methotrexate induced liver fibrosis in PsA patients is uncertain. The aim of this study was to assess if P3NP acts as an early warning of hepatic fibrosis in methotrexate treated PsA patients.
Methods: 23 PsA outpatients were studied. All patients had a diagnosis of psoriatic arthritis. Data were collected with respect to P3NP level, markers of disease activity (ESR and CRP) and indices of liver function (ALT, ALK P and albumin). A P3NP level > 4.2mcg/l was considered to be abnormal. Exposure to methotrexate ie weekly and cumulative dose, route of administration and pattern of arthritis were recorded. Confounding factors including alcohol consumption, use of other drugs and other inflammatory conditions were documented. Liver biopsies were performed on patients who had an abnormal P3NP result on at least 3 occasions, in accordance with published guidelines.
Results: Of the 23 patients studied, 10 were male and 13 were female. 13 had polyarticular disease and 10 had oligoarticular disease. 31 P3NP results out of a total of 65 collected were abnormal. No correlation was found between P3NP level and weekly or cumulative dose of methotrexate. We were unable to demonstrate a relationship between P3NP level and disease activity. Although a wide range of ESR results was recorded, 73% of the ESR values were less than 30mm/hr.Similarly the majority of CRP values were low. There appeared to be a relationship between P3NP and weight, with P3NP rising with increasing weight. 9 liver biopsies were performed in 7 patients. All 7 patients had abnormal P3NP levels ranging from 4.7 to 7.7mcg/l. 3 liver biopsies were entirely normal. 6 showed steatosis only. None showed inflammation, fibrosis or cirrhosis.
Conclusions: P3NP did not act as an early warning of hepatic fibrosis. Given that no abnormal histology was found in the biopsy group we propose

that use of P3NP as a marker of hepatic toxicity resulted in unnecessary liver biopsies. Although the numbers in this study were small, we found a large number of abnormal P3NP results which were not found to be related to cumulative methotrexate dose, disease activity or hepatic toxicity. This suggests that P3NP level is being influenced by other as yet unidentified factors. One such factor may be weight but this needs further study.

309. BASDAI ASSESSMENT FOR ANTI-TNF THERAPY IN ANKYLOSING SPONDYLITIS

S. Mackenzie, S. Miah, D. Kane, H. John, S. Roger. *Centre for Rheumatic Diseases, Division of Immunology, Infection and Inflammation, University of Glasgow, Glasgow, Scotland, United Kingdom; Rheumatology, Gartnavel General Hospital, Glasgow, Scotland, United Kingdom*

Background: It has been established that the pro-inflammatory cytokine TNFα plays a central role in the pathogenesis of AS and other spondylarthritides.
This has led to the development of biological agents targeted against TNF. The first randomised trials of anti TNFα agents in AS were published in 2002 and there is now convincing evdence that these agents are effective in reducing symptoms in AS. However not all AS patients are suitable for anti-TNF therapy and in addition to potential risks of treatment there is a significant financial cost of therapy. These factors mean that there is a need to select those patients with the most active disease and the most favourable cost/benefit ratio.
The ASAS group consensus statement have proposed that Biologic therapy should be used in AS when standard therapy has failed, the Bath Ankylosing Disease activity index (BASDAI) is greater than 4 and specialist opinion concurs.
Methods: The aim of this study was to validate the proposal of using a BASDAI $\geq$4 as an entry criteria for anti TNF therapy in AS. The percentage of patients eligible for treatment using the BASDAI score was assessed and also the impact of the patients' knowledge that the score might be used as a criterion for entry into an anti-TNF trial.
160 AS patients attending 2 clinics were studied - 51 prospectively and 109 case records retrospectively. The BASDAI was scored prospectively in 51 patients and obtained from the case records in 109 patients. The BASDAI scores were compared between the 2 clinics and corrleated with the ESR and CRP.
Results: The mean age of the patients was 46.8 yrs, mean age at diagnosis 33.5 yrs and the male to female ratio 2:1.The mean BSADAI score was 5.07 with 67.5% of patients having a BSADAI score of $\geq$ 4. There was no difference in the mean BSADAI scores between the two clinics. The BASDAI score was unaffected by the information regarding its use for an anti TNF trial (5.06 versus 5.10). There was a significant but weak correlation between BSADAI and ESR (r=0.457, p=0.015).
Conclusions: Greater than two thirds of our patients would be eligible for anti-TNF therapy using the ASAS group criteria. Based on a conservative estimate of an AS prevalence of 0.1%, there are 5000 AS patients in Scotland. Previous studies of this treatment in RA patients has suggested that 35% of patients are not suitable for anti-TNF agents and therefore the total number of AS patients likley to benefit from anti-TNF treatment would be 2100. This would present the NHS with a significant drug bill (approx # 21million per year). A BASDAI of $\geq$ 4 may therefore be too sensitive a measure for entry to anti-TNF therapy.

310. PROFILE OF PATIENTS WITH ANKYLOSING SPONDYLITIS ATTENDING A DISTRICT GENERAL HOSPITAL - HOW MANY MIGHT BE SUITABLE FOR TREATMENT WITH ANTI-TNF THERAPY?

J. Novak, A. Griffiths, J.K. Dawson, V.E. Abernethy. *Rheumatology Department, St Helens and Knowsley Hospitals, St Helens, WA9 3DA, United Kingdom*

Background: The study set out to assess how many patients attending a district general hospital Ankylosing Spondylitis (AS) clinic might be suitable for anti-TNF therapy as assessed by the International ASAS concensus statement published in September 2003[1]. This identified suitable patients as those with definite AS who had both persistently active and refractory disease.
Active disease - defined as the presence of active disease for at least 4 weeks as defined by both a sustained Bath AS Disease Activity Index (BASDAI) of at least 4 and an expert opinion based on clinical features, acute phase reactants and imaging modalities.
Refractory disease - defined by failure to respond to at least 2 NSAIDs in a 3 month period, failure of intra-articular steroids if indicated and failure of sulphasalazine if peripheral arthritis present.
Methods: 67 patients with AS have been identified and invited to attend a hospital based multi-disciplinary AS Clinic. This clinic provides a patient-centred service run by a clinical specialist physiotherapist and advanced nurse practitioner, with assessment including the use of accredited assessment tools BASDAI, BASMI, BASFI and the development of individual treatment plans as agreed with the patient.
Results: 32 patients have been seen and assessments made.
All 32 patients are on NSAIDs unless contra-indictated or unable to tolerate.
14 are on DMARD therapy (5 sulphasalazine, 4 Methotrexate, 1 SZP + MTX, 2 etanercept+ MTX, and 2 other)
17 patients had BASDAI $>$4. 7 of these patients are currently on DMARD therapy (including one on etanercept).
6 of these 17 patients had elevated CRP (range 11 – 180mg/l)
CRP was normal ($<$5mg/l) in 17 out of 23 patients.
Mean BASDAI result was 4.7 (SD $\pm$ 2.45). Mean BASFI 5.1 (SD $\pm$ 3.12) and mean BASMI 5.6 (SD $\pm$ 5.11)
Significant correlations were found between BASFI and BASMI (Pearson coefficient 0.522, p = 0.007), BASFI and BASDAI (Pearson coefficient = 0.763, p=0.000), and BASDAI and CRP (Pearson coefficient = 0.450, p = 0.027).
2 patients were on anti-TNF and 2 referred for consideration of this therapy.
Conclusions: 17 patients were identified with BASDAI of $>$4, of these 6 had raised acute phase reactants.ASAS guidelines would indicate that potentially over 50% of patients with AS may require 'expert opinion' assessment for consideration of treatment with anti-TNF therapy. Thus, there is potential for wide discrepancies in the number of patients with AS that are treated with anti-TNF as much will depend on the 'expert opinion' assessment. There is a need for more objective measurements of disease activity in AS to support the appropriate use of anti-TNF therapy. Imaging by MRI may be useful in this context to define degree of inflammation.
[1] J Braun et al Ann Rheum Dis 2003 **62** 817-24

311. THE INCIDENCE OF LONG-TERM METHOTREXATE HEPATOTOXICITY IN PSORIATIC ARTHRITIS

K. Lindsay, A. Gough, M. Goodfield, A. Layton, S. Fraser. *Rheumatology, Harogate District Hospital, Harrogate, West Yorkshire, United Kingdom; Dermatology, Harrogate District Hospital, Harrogate, West Yorkshire, United Kingdom; Dermatology, Leeds General Infirmary, Leeds, West Yorkshire, United Kingdom; Rheumatology, Leeds General Infirmary, Leeds, West Yorkshire, United Kingdom*

Background: Methotrexate induced hepatic fibrosis occurs in psoriatic disease 3 times more frequently than in rheumatoid arthritis. Risk factors are alcohol consumption, diabetes, obesity and age. For patients on long-term methotrexate for psoriatic disease, Dermatology Guidelines recommend liver biopsy every 1-1.5grammes cumulative dose, whilst rheumatologists monitor serial liver function only in accordance with guidelines for rheumatoid arthritis. There is little data on the incidence of methotrexate hepatotoxicity in psoriatic arthritis. We report the results of liver biopsies of 46 patients with psoriasis and arthritis on long-term methotrexate who have been monitored by following the British association of Dermatology guidelines.
Methods: All patients on long-term methotrexate with psoriatic skin and joint disease who were scheduled for a liver biopsy were assessed in detail. Risk factors for hepatotoxicity were assessed by review of medical notes and by patient interview including age, sex, BMI, weekly alcohol consumption, a history of alcohol abuse or diabetes. The duration of psoriatic disease, methotrexate therapy, cumulative dose, current dose and mode of administration (SC or oral) was recorded. These were all compared to hepatic histology (group 1= normal, 2= steatohepatitis, 3=early fibrosis) using logistic regression.
Results: 46 patients with psoriatic disease were assessed. 4 patients with only skin disease were included. The mean cumulative dose was 3734mg and duration of therapy 5.1 years (range 1-30). There were 4 cases at stage 3, 11 at stage 2 and the 30 remaining were normal. All but 1 patient was on folate supplements. None of the cases of stage 2 or 3 cirrhosis was related to the presence of risk factors either cumulatively or individually.
Conclusions: In this study 9% of MTX treated patients had early liver fibrosis and 23% steatohepatitis. None had advanced fibrosis despite a long duration of therapy. This may be due to the increasing use of folate, which has been shown to reduce the incidence of transaminitis in rheumatoid arthritis. Cirrhosis was not predicted by any of the known risk factors assessed.

312. AS YOU LIKE IT THE POTENTIAL SIZE OF THE UK AS POPULATION MERITING ANTI-TNFa TREATMENT

P.J. Cornell, J. Haynes, S.C.M. Richards. *Rheumatology, Poole Hospital NHS Trust, Poole, Dorset, United Kingdom*

Background: Treatment for Ankylosing Spondylitis (AS) over the past few decades has consisted of NSAIDs and physiotherapy. There has been found to be limited benefit from the use of DMARDs for peripheral disease and none in axial disease. Recent advances in the role of Anti-TNFa therapy

for rheumatological diseases have given patients with AS new hope for the future. Several RCTs have shown consistent benefit from the use of these new therapies and recently there has been consensus of opinion by the ASsessment in Ankylosing Spondylitis Working Group (ASAS) on guidelines for the use of anti-TNFa therapy for appropriate patients. At Poole Hospital NHS Trust we run a practitioner-led AS service and undertook to calculate numbers of patients who would fulfil the ASAS criteria for treatment with anti TNFa therapy

Methods: Patients attending the AS clinic were asked to complete BASDAI, BAS-G, and BASFI questionnaire. These were evaluated with patient demographics, NSAID/DMARD medication and inflammatory markers.

Results: 105 patients attend the AS clinic, 81(77%) returned their questionnaires. See table.

Impact of AS and eligibility for anti-TNF

n(%) 81(100%)	Spinal AS	Peripheral AS
Numbers	57(70%)	24(30%)
BASDAI>4	19(23%)	17(21%)
CRP/ESR-15	7(9%)	11(14%)
Meet ASAS criteria Anti-TNF therapy	5(6%)	6(7%)
Additionally need to try SZP to meet ASAS criteria for antiTNF		5(6%)

Conclusions: Population base of 250,000 in Poole of the 105 patients attending the AS clinic 11(14%) had a combination of all 3 indices with a failure of >2 NSAIDs and with expert opinion would be eligible for anti-TNFa therapy. 5(6%) patients would need to fail sulphasalazine (SZP) prior to being eligible for therapy. Extrapolation using a UK population of 59 million would qualify 2596 patients for anti-TNFa therapy.

313. NAIL DISEASE IN PSORIATIC ARTHRITIS: CLINICALLY IMPORTANT, POTENTIALLY TREATABLE AND OFTEN OVERLOOKED

L. Williamson, N. Dalbeth, J.L. Dockerty, B. Gee, R. Weatherall, P. Wordsworth. *Rheumatology Department, Nuffield Orthopaedic Centre, Oxford, Oxon, United Kingdom; Dermatology Department, Churchill Hospital, Oxford, Oxon, United Kingdom; ICRF/NHS Centre for Staistics in Medicine, Institute of Health Sciences, Oxford, Oxon, United Kingdom*

Background: Nail disease occurs frequently in psoriatic arthritis (PsA) and the relationship between distal interphalangeal (DIP) joint and nail disease is well recognized. However, the association between other aspects of PsA and nail disease is not fully understood. We examined the relationship between the severity of nail disease and characteristics of psoriatic arthritis (PsA). We also wished to assess the clinical management of nail disease in patients with PsA.

Methods: We studied 69 patients with PsA at two visits. On the first visit, a rheumatology assessment of joint, skin and nail disease was made. On the second visit, a detailed dermatology assessment of skin and nails was made. Nail disease was analysed using a 20-nail psoriasis nail severity score (PNSS).

Results: There were 57 (83%) patients with clinical evidence of psoriatic nail disease. Although 66 (96%) patients had been treated for skin disease, only one (1%) had received any treatment for nail disease. Severe nail disease measured by the PNSS correlated with severe skin psoriasis as indicated by the percentage of body surface area affected by psoriasis ($r=0.34$, $p=0.004$) and physician global assessment of psoriasis ($r=0.45$, $p<0.001$). Patients with distal interphalangeal (DIP) joint disease had higher PNSS scores ($p=0.03$). The PNSS was also associated with unremitting and progressive arthritis ($p<0.001$), and correlated with HAQ ($r=0.34$, $p=0.004$), depression ($r=0.39$, $p<0.001$) and anxiety ($r=0.34$, $p=0.004$) scores. Compared with dermatology assessment, the rheumatology examination of nail disease had a positive predictive value of 84% and negative predictive value of 83%.

Conclusions: In patients with PsA, the severity of nail disease correlates with indicators of both skin and joint disease severity. Although rheumatologists can adequately screen for nail disease, the management of this aspect of PsA is often overlooked.

314. CHANGE IN PATIENT-ASSESSED HEALTH FOLLOWING PHYSICAL THERAPY FOR ANKYLOSING SPONDYLITIS (AS): A STRUCTURED REVIEW

K.L. Haywood, A.M. Garratt, P.T. Dawes. *Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford, Oxford, United Kingdom; Unit of Health-Care Epidemiology, Department of Public Health, University of Oxford, Oxford, United Kingdom; Staffordshire Rheumatology Centre, University Hospital of North Staffordshire NHS Trust, Stoke-on-Trent, Staffordshire, United Kingdom*

Background: AS is incurable, often progressive and unpredictable in its progress. The physical, social and psychological aspects of health may all be affected. Physical therapy is an essential part of disease management, with the responsibility for daily management lying primarily with the patient. The patient's perspective of change in health should be included alongside traditional biomedical methods of assessment. Evidence for the effectiveness of physical therapy in AS will be enhanced by the use of appropriate outcome measures. Structured reviews of measurement properties inform instrument selection and standardisation.

Methods: Systematic literature searches of all major databases (2000-2003) and relevant journals to identify patient-assessed instruments used in the evaluation of physical therapy in AS. Instruments were assessed against criteria relating to responsiveness, the ability to detect clinically important change over time.

Results: 25 articles covered ten AS or arthritis-specific and four generic instruments that met the inclusion criteria: Bath AS Disease Activity Index (BASDAI), Bath AS Functional Index (BASFI), Dougados Functional Index (DFI), Health Assessment Questionnaire (HAQ), HAQ-Spondyloarthropathies, Bath AS Global score, Revised Leeds Disability Questionnaire (RLDQ), AS Quality of Life questionnaire (ASQoL), Arthritis Impact Measurement Scales, Patient Elicitation Technique, EuroQol, Sickness Impact Profile (SIP), SF-36 and the WHO-Disease Activity Scale II. Most instruments were assessed for responsiveness through mean score changes. The BASFI and BASDAI had the greatest evidence for responsiveness, but mean score change (scale 0-10) did not exceed 1.3 or 1.9 respectively following all interventions within a 2 to 40 week follow-up period. Responsiveness and group discrimination following clinical trials of physical therapy was reported for the ASQoL, BASDAI, BASFI, DFI and EuroQol. Ceiling effects and evidence of poor responsiveness was reported for the HAQ, RLDQ and SIP. There was limited evidence for the responsiveness of the generic instruments.

Conclusions: AS evaluation following physical therapy largely focuses on impairment and disability caused by disease, with little recognition of health related quality of life. This is reflected in the widespread use of the BASFI and BASDAI, measures of functional disability and disease activity respectively. Although physical exercise may improve or maintain functional ability, further evidence for the impact on wider aspects of health and quality of life are required. The inclusion of responsive AS-specific and generic measures of health alongside more traditional measures will be important in detecting the wider benefits, and side-effects, of physical therapy.

315. THE SPONDYLOARTHROPATHY OF INFLAMMTORY BOWEL DISEASE

S. Salman, A.A. Abdulla. *Rheumatoloy Dept., Faculty of Medicine University of Baghdad, Iraq, Baghdad, Iraq; Rheumatoloy Dept, Faculty of Medicine, University of Baghdad, Iraq, Baghdad, Iraq*

Background: to study the prevalence of spondyloarthropathy (SPA) in patients with inflammatory bowel disease (IBD).

Methods: one hundred consecutive patients with inflammatory bowel disease (80 with ulcerative colitis (UC), and 20 with Crohns disease (CD)). History was taken and clinical examination with radiographs of the peripheral, axial and lumbar spine was performed. The correlation between spondyloarthropathy, site and severity of the inflammatory bowel disease was reported and patients were tissue-typed.

Results: Twenty-five out of 100 patients (25%) with IBD were found to have SPA, arthralgia occurred in 38 patients (38%), which was more commonly in females compared to male patients. Enthesopathy was reported in 26% of the patients. Peripheral arthritis was observed in 19% of the patients, mainly pauci or monoarthritis, the lower limbs are particularly affected, mainly the knees and ankles. Patients with CD showed peripheral joint involvement, more in colonic than small bowel disease. Patients with UC had peripheral arthritis in patients with pan colitis and subtotal colitis more than those with proctitis and proctosigmoiditis, and runs parallel to disease activity of the bowel. Sacroiliitis was observed in 10% of patients, while spondylitis was observed in 6%, and had an independent course to the site or severity of the IBD. HLA-B27 Antigen was observed in 67% of the spondylitis, 60% of the sacroiliitis and 5% of the peripheral arthritis patients.

Conclusions: Rheumatological disorders are relatively common extraintestinal manifestations of IBD.

316. MUSCLE MASS AND FUNCTION IN ANKYLOSING SPONDYLITIS PATIENTS

F. Casanova[1], S.M. Marcora[1], E.R. Williams[1], A.B. Lemmey[1], J. Jones[2], P. Maddison[2]. *[1]School of Sport, Health and Exercise Sciences, University of Wales, Bangor, Gwynedd, United Kingdom; [2]Rheumatology Department, Ysbyty Gwynedd, Bangor, Gwynedd, United Kingdom*

Background: The aim of the study was to evaluate the effects of well-established Ankylosing Spondylitis (AS) on body composition, muscle function and quality of life (QoL).

Methods: Fourteen male AS patients were compared to fourteen sex and age matched controls. Body composition by DEXA and muscle function by isokinetic dynamometry, hand-grip strength, sit-to-stand test and arm curl test were assessed. Disease activity and QoL were measured using BASDAI, BASFI and SF-36.
Results: No significant differences in total lean body mass, fat mass and appendicular lean mass were demonstrated following an ANCOVA to adjust for differences in weight between the groups. Significant differences in three out of ten measures of absolute muscle strength were revealed by t-tests. However, none of these differences remained significant when normalized by weight. On the contrary, the differences between groups in all tests requiring prolonged (30 sec) force production were highly significant (sit-to-stand test p =0.000; arm curl test p=0.002). The AS group reported lower QoL scores and this was explained by low scores in the physical function domain of the SF-36
Conclusions: Impaired physical function and reduced QoL in AS patients cannot be explained by changes in body composition or relative muscle strength. However, these results suggest a possible impairment in muscle endurance, that is the ability to produce force over time. Future studies should investigate this aspect of muscle function with more sophisticated techniques.

317. SPINAL OSTEOTOMY FOR THE CORRECTION OF SEVERE DEFORMITY IN ANKYLOSING SPONDYLITIS

K. Dani, M.J. M, S.D. Roger. *Centre for Rheumatic Diseases, Division of Immunology, Infection and Inflammation, Faculty of Medicine, University of Glasgow, Glasgow, Scotland, United Kingdom; Spinal Deformity Centre, Edinburgh Royal Infirmary, Edinburgh, Scotland, United Kingdom*

Background: Ankylosing Spondylitis (AS) can be complicated by a severe cervical and thoracic kyphosis leading to restriction of the horizontal visual horizon. This cannot be corrected by conservative measures and osteotomy of the cervical or thoracic spine is advocated in order to improve quality of life and to correct an embarassing deformity. Experience with these procedures is limited and we have reviewed the results of surgery in Glasgow AS patients.
Methods: The case records of 6 AS patients who underwent spinal osteotomy at the Edinburgh Spinal Deformity Centre were reviewed and patient demographics recorded. Where available, the surgical notes were also reviewed Details of spinal mobility as measured with a spondylometer and wall to tragus measurement before and after surgery were recorded. Patients' satisfaction with the operation and any complications were noted.
Results: 6 AS patients underwent lumbar spinal osteotomy. The mean duration of disease at the time of surgery was 21yrs (range 11-30 yrs) and the mean age at surgery was 40 yrs (range 34-45 yrs). The mean total range of spinal movement improved modestly after surgery (21.4° versus 28.2°) but the mean wall to tragus distance improved substantially from 30.75 cms to 22.7 cms. Complications of surgery were minor. There was a high rate of patient satisfaction with the procedure.
Conclusions: Lumbar osteotomy is a worthwhile procedure for AS patients with severe spinal deformity. Despite the extent of the surgery, no major complications occurred in this small group of patients. Lumbar osteotomy should be considered for AS patients with restriction of horizontal visual horizon.

318. PATTERN OF PRESENTATION OF SINGLE JOINT EFFUSION AMONG PATIENTS ATTENDING A DISTRICT GENERAL HOSPITAL

A. Salih, A. Cox, E. Williams. *Rheumatology Department, Warrington Hospital, Warrington, Cheshire, United Kingdom*

Background: The cause of single joint effusion can be difficult to diagnose at initial presentation. Follow up of such patients is often required to confirm diagnosis. We have set out this study to examine the final diagnosis among patients presenting with a "monoarthropathy".
Methods: Conscutive patients who presented with single joint effusion over a period of 6 months attending outpatient clinics in a district Hospital were recruited. Clinical history, examination and standard laboratory analysis was conducted. These patients were followed for 12 months.
Results: There were 32 patients of whom 56% were females and 44% were males. The knee was the commonest joint involved (60%), followed by the wrist (19%), ankle (6%) and the other joints. In 25 patients (78%) this was the first ever joint presentation. The causes of monoarthropathy included: undifferentiated seronegative arthropathy in 21 patients (66%), Rheumatoid arthritis in 6 patients (19%), septic arthritis in 3 patients (9%) and 1 patient each developed pigmented villonodular synovitis and serum sickness. Joint aspiratin and/or injection was carried out in all but 3 patients. Microbiological examination was carried out in 63% and crystals identification in 41% of all patients. Constitutional symptoms were absent among the 3 patients with septic arthritis. Staph aureus was isolated in 2 septic joints and AAFB in one. After 12 months follow up 8 patients (25%) were taking DMARDS and 24 patients (75%) continued on NSAIDs. Surgical synovectomy was carried out in 8 patients (25%) of cases who were resistent to conservative treatment and continued to suffer from a monoarthropathy only.
Conclusions: Single joint swelling is a common presentation in out-patient clinics. Though the majority of patients will develop subsequently an inflammatory arthropathy (Seronegative or RA), a significant number may suffer from septic arthritis or other uncommon disease process. Aspiration of a monoarthropathy is critical in establishing diagnosis of septic arthritis.

319. ELIGIBILITY FOR ANTI-TNF THERAPY IN ANKYLOSING SPONDYLITIS: WHAT'S THE REAL SITUATION?

R.F. Mascarenhas[1], M.J. Davis[1], L.P. Robertson[2]. *[1]Rheumatology, Royal Cornwall Hospital, Truro, Cornwall, United Kingdom; [2]Rheumatology, United Bristol Healthcare Trust, Bristol, United Kingdom*

Background: Recent articles [1, 2] have advocated the use of anti-tnf therapy for ACTIVE ankylosing spondylitis(AS). The definitions used for active disease were a BASDAI> 4 and VAS for spinal pain> 4. By applying these arbitrary criteria retrospectively to a cohort of consecutive attenders at our AS clinic we aim to see what proportion of the AS patients would be eligible for biologic therapy over a 5 year time line and the implications this may have.
Methods: The BASDAI forms part of the routine annual assessment of patients in our AS clinic. The criteria for active AS disease of BASDAI> 4 and VAS spinal pain> 4 was applied to annual BASDAI scores taken over a five year time period from 74 consecutive attenders to the clinic. There were at least 3 BASDAI scores available for each pt over the period analysed(1996-2001).Those meeting the criteria were deemed eligible for anti-tnf therapy.
Results:

Cross sectional Data

	1996	1997	1998	1999	2000	2001
Number of patients with BASDAI available	51	58	57	63	50	54
Number of patients meeting criteria for active disease	27	29	29	39	33	30
Patients eligible for anti-tnf(%)	53	50	50.9	61.9	66	55.6

The cross sectional data above shows that, of the 74 consecutive attenders (M:F ratio 3:1, mean age at diagnosis 28 yrs, mean duration of disease 21.3 yrs), between 50% and 66% of those attending an annual assessment met the eligibilty criteria for active disease.Over the five year time period, on the basis of at least 3 annual BASDAI scores per pt, assessment of the longitudinal data shows one group of 38%(28/74) who always fulfil the criteria (Group A), a second group of 39% (29/74) who fall in and out of the criteria (Group B) and a third group of 23% (17/74) who never met the criteria (Group C).These results are represented in the table below.

Longitudinal Data

Patients who always meet criteria for active disease	28/74 (38%)	Group A
Patients who fall in and out of criteria for active disease	29/74 (39%)	Group B
patients who never meet criteria for active disease	17/74 (23%)	Group C

Based on at least 3 BASDAI scores over a five year period (1996-2001)

Conclusions: Using the set criteria for active disease 77% of the patients i.e Group A plus B, would be on anti-tnf therapy at the end of the 5 year period. This is despite the fact that disease activity varies markedly above and below set criteria with conventional treatment alone. The economic implications are immense. A disease that is currently relatively cheap to treat becomes very expensive especially in view of the fact that evidence for long term disease modification with anti-tnf therapy is not yet available.

References

[1] Brandt J et al. Arthritis Rheum 2003; 48(6): 1667-1675
[2] Braun J et al. Arthritis Rheum 2003; 48(8): 2224-2233