Objectives

Methods From July 1999 up to July 2000, 39 consecutive AS patients were recruited, after informed consent, at the Outpatient Department Rheumatology of Leeuwarden/Zwolle. All patients had Sahara calcaneus QUS (hologic) and DEXA (hologic/lunar) with an interval of less than 3 mos.

Results 12 female, 27 male AS patients, mean age 49 yr (SD:12 yr), mean SI score 3.3–3.3 (0–4) were assessed: AS duration > 10 yrs: n = 29, <9 yrs: n = 10. HLA B27 positivity in 88%. Mean (SD) bone density was 532 (114) in calcaneus using Sahara QUS, 838 (112) in femoral column using DEXA, and 615 (178) in Ward's using DEXA. Pearson correlation of estimated calcaneal density using QUS – lumbar AP T score is 0.41 ($p < 0.05$), and QUS – Ward's T score 0.36 ($p < 0.05$).

Abstract SAT0184 Table 1 Test characteristics of Sahara (pretest probability = Ppretest; predictive value positive test (T < -1.0) = Ppos test)

	Lumbar spine osteopenia	Osteoporosis	Ward's triangle osteopenia	Osteoporosis
Ppretest	62%	17%	74%	31%
Sensitivity	50%	88%	48%	67%
Specificity	80%	74%	90%	74%
Ppos test	80%	47%	93%	53%

Conclusion In our study population pretest probability for axial/femoral osteopenia increases 18–19%; pretest probability for axial osteoporosis increases 30% using T < -1.0 in calcaneus QUS. Prior to applying QUS for screening of osteoporosis in high-risk populations as AS a further improvement of QUS is warranted.

SAT0185 GALLIUM-67 SPECT SCINTIGRAPHY IN DIAGNOSIS OF TEMPORAL ARTERITIS

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Background Temporal Arteritis (TA) is a common syndrome in the elderly, consisting of pain in the temporal area of the head, jaw claudication, sudden visual loss, high erythrocyte sedimentation rate and tenderness on palpation in the temporal area.

The diagnosis of this condition is relatively straightforward when the typical symptoms and positive temporal artery biopsy are present. Unfortunately, only one half of patients have positive temporal artery biopsy. Other diagnostic procedures such as colour Doppler sonography or superficial carotid arteriography have been proven to be useful for diagnosis of TA, but these techniques do not discriminate between inflammatory and non-inflammatory temporal artery disease.¹ Genereau T. *et al* proposed that Gallium-67 (Ga67) planar scan may be useful in diagnosis of TA.²

Quantitative Ga67 Single Photon Emission Computed Tomography (SPECT) scintigraphy may rise the accuracy of TA diagnosis.

Objectives To assess the effectiveness and usefulness of Ga67 SPECT scintigraphy, two patients with suspected diagnosis of TA were examined. Quantitative estimation of Ga67 uptake was done.

Methods

Case 1: 61 years old male patient with biopsy proven TA relapsed after half a year period without prednisolone treatment. Clinical features were: severe headache in left temporal region, jaw claudication, fever and tenderness on palpation in left temporal area and high erythrocyte sedimentation rate.

Case 2: 79 years old female patient was admitted to the hospital with complaints on severe headache, night shoulder girdle pain and jaw claudication. Objective signs were tenderness on palpation in both temporal areas, limited active shoulder motion, high erythrocyte sedimentation rate. Because of a patient's severe heart disease it was not possible to perform diagnostic temporal artery biopsy.

Both patients underwent Ga67 examination: a planar scan followed by a skull SPECT study. Ga67 uptake ratio was calculated (temporal region/background region) on transaxial and coronal slices after SPECT scan reconstruction.

Results In both cases the Ga67 planar scan was nondiagnostic for inflammatory process in the area. The SPECT study showed increased uptake in the temporal region, with high Ga67 uptake ratio.

Conclusion Our data suggests that Ga67 skull SPECT may be useful in the diagnosis of TA especially if Ga67 uptake ratio in the area is calculated. Further studies are needed to confirm these data.

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SAT0186 KNEE JOINT ARTHROSCOPY AND RADIOLOGICAL STAGES IN OSTEOARTHRITIS (OA)

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Background

Objectives To compare the findings of knee joint arthroscopy and radiological stages in osteoarthritis (OA).

Methods Arthroscopy was carried out in twenty four knee OA (I–III degree by A. Larsen) patients by 'STORZ' apparatus with photoinstrumental set. Six basic zones of knee joint were analysed: patella, trochlears, a lateral and medial articular tibial and femoral surfaces. Cartilage damage was assessed by Bequin and Lockie according 5 degrees: normal cartilage (0), cartilage fibrillation (I deg.), surface fissures and/or surface erosions baring subchondral bone (III deg), bared subchondral bone (IV deg.). Synovitis was analysed by 3 degrees: mild, moderate and severe.

Results The character and depth of cartilage destruction in different zone of knee joint is not the same. Patella cartilage was damaged in all patients independently of radiological stages. Deep cartilage fissures were found in the 1st radiological OA stage in all areas of knee joint with the exception of lateral surface of the tibia. Synovitis intensity has no correlation with X-ray stages.

Conclusion According to arthroscopy data there was no correlation between degree of articular destruction and 'early' radiological OA stages. Arthroscopy of OA knee joint is the method for

real assessment of hyaline cartilage structural changes and synovial inflammation.

SAT0187 USE OF BONE SCINTIGRAPHY FOR INFLAMMATORY POLYARTHRITIS IN A TEACHING HOSPITAL RHEUMATOLOGY DEPARTMENT

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Background Bone scintigraphy using ^{99m}Tc methylene diphosphonate (^{99m}Tc MDP) has been shown to be sensitive in detecting subclinical synovitis¹ but lacks specificity for the aetiology of the articular disease. ^{99m}Tc MDP scans may therefore have a role to play in identifying inflammatory polyarthritis (IP) in selected patients, although it is recognised that they cannot accurately differentiate between different degrees of activity in rheumatoid arthritis.²

Objectives To assess the value of ^{99m}Tc MDP scans in inflammatory polyarthritis.

Methods All requests for bone scans for IP by the rheumatology department at the University Hospital of Wales over a 2¹/₂ year period were retrospectively assessed. The indications for the bone scan and the results were recorded. Degenerative changes on bone scan, confirmed on plain xrays, were considered negative for IP.

Results 94 bone scans were performed in total, of which 68 scans were done looking for possible IP. Of these, 17 (25%) confirmed a pattern of uptake consistent with IP, 6 (9%) were equivocal (possible IP) and 45 (66%) revealed no evidence of IP. 1 patient with a negative ^{99m}Tc MDP scan subsequently developed psoriatic arthritis with erosions on plain films. In the subgroup of 45 patients with high ESR values, 9 (20%) bone scans suggested an IP, 6 (13%) were equivocal and 30 (67%) were negative. ^{99m}Tc MDP scans were requested regarding activity of arthritis in 7 patients with known rheumatoid arthritis, of which none were helpful in terms of altering management. 7 patients with seronegative arthritis underwent bone scintigraphy looking for evidence of peripheral joint involvement, which was demonstrated in 3 (43%) patients.

Conclusion These results suggest that ^{99m}Tc MDP bone scans may be helpful in patients with normal clinical examination if there is a pattern of uptake suggestive of IP. Negative bone scans can also be helpful in patients with polyarthralgia and elevated inflammatory parameters on blood tests, although it should be stressed that the diagnosis of rheumatoid arthritis remains a clinical one. It is not possible to comment on the degree of activity of arthritis on ^{99m}Tc MDP scans, and these should therefore not be requested for this.

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SAT0188 CHRONIC PLANTAR FASCIITIS: EVALUATION BY ULTRASOUND AND MRI. TREATMENT WITH ULTRASOUND GUIDED INJECTION

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Background Chronic plantar fasciitis is not very known and the diagnosis is frequently missed.

Trends for the diagnosis have been performed with the new methods of imaging.

Objectives Determine the abnormal features of the chronic plantar fasciitis and find an efficient and accurate method of treatment.

Methods 12 patients with chronic plantar fasciitis have been referred to us: men 7, women 5; mean age 55 years; mean duration of the disease 10 months.

Ultrasound has been performed in 5 cases and MRI in 7 cases.

Results Imaging showed increased thickness, reduced echogenicity of the plantar fasciitis and/or inflammatory changes.

Ultrasound guided injection of steroids of the enlarged, hypo-echoic plantar fascia, has been performed in 7 patients who had failed to conservative treatment.

Conclusion The procedure resulted in complete relief of symptoms in 6 of 7 patients.

SAT0189 CLINICAL UTILITY OF DIAGNOSTIC TESTS FOR RHEUMATOID FACTOR

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Background

Objectives To investigate and compare the accuracy and usefulness of diagnostic tests for rheumatoid factor (RF).

Methods In a cross-sectional study sera derived from patients admitted to the Department of Rheumatology were tested for presence of RF using both nephelometry and the Waaler test. Diagnostic sensitivity and predictive values of the tests were calculated and compared. The accuracy of tests was compared using receiver-operating characteristics (ROC) methodology.

Results Good agreement was found between the tests (kappa = 0.7). At cut-off 19 IU/mL nephelometry showed highest sensitivity (82.4%) and specificity (95.9%) for rheumatoid arthritis (RA). In comparison, the Waaler test had a sensitivity of 60.3% and specificity of 95.9% at cut-off titer 128. The tests showed nearly equal performance characteristics when predicting primary Sjögren's syndrome (SS).

Conclusion Although both tests exhibit good performance characteristics, nephelometry has a higher accuracy when predicting RA. The common practice of using both tests for detection of RF is not recommended.