osteoarthritis (OA), rheumatoid arthritis (RA), avascular necrosis and neck fracture.

Objectives The purpose of this study is to clarify whether there are differences of the postoperative bone remodelling pattern around the femoral stem between RA and OA patients.

Methods Total hip arthroplasty with the Mallory-Head cement less titanium prosthesis has been performed since 1992 in our institute. This tapered stem has plasma spray coating in proximal one third of it. RA group included 18 hips (mean age at operation was fifty-five years old and mean duration of follow-up was 4.6 years). OA group included 70 hips (mean age at operation was fifty-eight years old and mean duration of follow-up was 5.2 years). Anteroposterior radiographs of the hip were made at 6 weeks, 3 months, 6 months, one year and every year after the operation. We evaluated the frequency and time of new bone remodelling appearance around the stem such as spot welds, cortical hypertrophy, and pedestal. We defined that the radiographic signs of instability were progressive subsidence or the presence of radiolucent lines around the porous coating.¹ To evaluate the differences in both groups, the Mann-Whitney's U test and chi-square test were used. P values of less than 0.01? @were considered significant.

Results In both groups, there was no case, which has radiographic sign of instability. Age and intramedullary canal fill of the stem at the operation and follow-up period were not significantly different between RA and OA groups. In endosteal spot welds, the time of its appearance in RA group (2.7 months after operation) was significantly shorter than that in OA group (5.2 months) and the frequency of it did not differ between both groups. However, in halo pedestal, the frequency in RA group (50%) was significantly lower than that in OA group (87%) and the time of its appearance did not differ between both groups. On the other hand, concerning about cortical hypertrophy, time and frequency showed no significant differences between two groups.

Conclusion We revealed that in RA patients, endosteal spot welds appeared significantly earlier than that in OA patients, and the frequency of halo pedestal was significantly lower than that in OA patients.

REFERENCE

- 1 Mulliken BD, Bourne RB, Rorabeck CH, et al. A tapered titanium femoral stem inserted without cement in a total hip arthroplasty. *J Bone Joint Surg Am.* 1996;**78**:1214

THU0160 SEMI-QUANTITATIVE AND STANDARDISED SONOGRAPHIC INVESTIGATIONS OF THE ACTIVITY OF INFLAMMATION IN PATIENTS WITH RHEUMATOID ARTHRITIS

¹C Weidekamm, ¹F Kainberger, ²M Koeller, ²L Erlacher, ¹H Imhof. ¹Department of Diagnostic Radiology; ²Department of Rheumatology, University-Hospital AKH-Vienna, 1020 Wien, Austria

10.1136/annrheumdis-2001.1062

Background With high-resolution sonography (US) of joints affected by rheumatoid arthritis (RA) a detailed delineation of intra- and extraarticular soft-tissue abnormalities is possible. Power-Doppler is useful for the analysis of the vascularisation of inflamed tissue. The aim of the study was to evaluate the diagnostic value of Power-Doppler and B-Mode US in context with clinical examinations and conventional radiography.

Objectives

Methods To date, in 22 patients (5 males, 17 females) with different grades of RA (17 RF+, 5RF-) the wrists and MCP I-V and PIP II-V were scored with sonography (ATL HDI 5000, 5□12 MHz Transducer, synthetic plastic blocks) with B-Mode and Power-Doppler application in standardised technique. Extension and severity of the inflamed tissue as well as vascularisation were scored. The results were correlated with benchmarks of the clinical and radiologic investigations. Radiographs were assessed according to the Larsen Score. The amount of time of US investigation was measured.

Results With sonography, both extension and severity of wrist lesions could be delineated to better advantage than with radiography and clinical examination. This was also true for the MCP joints with the exception of MCP II, where most of the lesions detected by radiography were found. From 484 joints, 29% were found to be abnormal by clinical investigations. Erosions were detected in 26% with radiography, in 37% with sonography. Hypervascularisation was found in 36%. No significant difference of US abnormalities between patient groups with positive and negative RF could be found. A modern state-of-the-art Power Doppler program release is a necessary tool for semi-quantification. A standardised investigation technique with a median amount of time of 18 min provides sufficient quality measures.

Conclusion Sonography detects more bone erosions than radiography and clinical examination. It supports the diagnosis of RA manifestations of the hand.

REFERENCES

- 1 Fitzgerald O, Bresnihan B. Synovial vascularity is increased in rheumatoid arthritis: comment on the article by Stevens, et al.[letter]. *Arthritis Rheum.* 1992;**35**:1540-41
- 2 Hau M, Schultz H, Tony HP, Keberle M, Jahns R, Haerten R, Jenett M. Evaluation of pannus and vascularization of the metacarpophalangeal and proximal interphalangeal joints in rheumatoid arthritis by high-resolution ultrasound (multidimensional linear array). *Arthritis Rheum.* 1999;**42**(11):2303-8
- 3 Grassi W, Tittarelli E, Pirani O, Avaltroni D, Cervini C. Ultrasound examination of metacarpophalangeal joints in rheumatoid arthritis. *Scand J Rheumatol.* 1993;**22**:243-7

THU0161 RHEUMATOID ARTHRITIS WITH ANTIKERATIN ANTIBODIES (AKA): A DISTINCT IMMUNOGENETIC OR PROGNOSTIC SUBGROUP?

¹A Gómez, ¹R Sanmartí, ²O Viñas, ²G Ercilla, ¹JD Cañete, ¹C Orellana, ¹G Salvador, ¹J Muñoz-Gómez. ¹Rheumatology; ²Immunology, Hospital Clinic, Barcelona, Spain

10.1136/annrheumdis-2001.1063

Background Antikeratin antibodies (AKA) have been described as the most specific serologic markers of RA. However, whether these antibodies can identify a particular RA population it remains controversial.

Objectives To compare the immunogenetic features (HLA-DRB1 and TNF- α polymorphism) and radiological severity of a group of patients with early RA, according to the presence or not of AKA.

Methods 65 patients with early RA (48F/17M, mean age: 50 $\pm$ 14 y, mean disease duration 15 $\pm$ 12 mo, RF+:71%) were genotyped for HLA-DRB1 and TNF- α alleles. Hands and feet x-ray were taken at entry and then yearly during follow-up. The Larsen method was used to assess radiographic damage. AKA was determined by immunofluorescence using a modified Young method (sensitivity/specificity 60.2%/98.3%).

Results AKA were present in the sera of 34 patients (prevalence of 52.3%). RF was more frequently found in AKA+ patients

than in those without (85.3% vs. 54.8%; $p = 0.007$). No differences were observed according to the shared epitope and the frequency of HLA-DR4. The different TNF- α polymorphisms were equally distributed in AKA positive and negative populations. No significative radiological differences (presence of erosive disease and Larsen score) were observed at study entry between both populations. A trend to a more progressive radiological damage was observed at the end of follow-up (32 ± 6 mo) in those patients with AKA, although the differences were no significative (Larsen score of 6.1 ± 4.3 in AKA(+) vs. 4.5 ± 5.5 in AKA (-). This trend is also observed when only RF positive patients were evaluated.

Conclusion These results indicate that AKA cannot identify a distinct immunogenetic subgroup in Spanish reumatoid population. The role of AKA as a possible marker of a more aggressive joint disease merits further investigation.

THU0162 BONE INVOLVEMENT IN GAUCHER DISEASE

ME Bahri, S Othmani, F Msaddek, B Louzir, MO Bahri. *Internal Medicine Service, Military Hospital, Tunis, Tunisia*

10.1136/annrheumdis-2001.1064

Background

Objectives

Methods Gaucher disease (GD) is an autosomal disorder of glycosphingolipid metabolism due to deficiency of the lysosomal acid glucocerebrosidase. Although prevalent among Ashkenazi Jews, it has been described in all other ethnic groups. Bone lesions are associated with type 1 and type 3 GD. They are secondary to the progressive accumulation of histiocytes and macrophages laden with glucosylceramide in bone marrow. Expression of skeletal involvement in Gaucher patients ranges from asymptomatic disease, with or without radiologic signs, to symptomatic disease, which can be severe and engender considerable pain and disability. MRI appears to be the most valuable imaging technique for evaluating bone marrow involvement. Splenectomy is suggested to accelerate skeletal deterioration. Our patient was a 23-year old man type 1 GD who was admitted for evaluation of hepatosplenomegaly and thrombocytopenia. He also complained of episodic joint involving both knees, shoulders, wrists and elbows lasting 2 – 5 days that started a year before admission. The pain was defined as non specific pain. Clinical examination yielded local tenderness. Hepatosplenomegaly was confirmed by abdominal CT scan. Biology revealed an hypersplenism (anaemia, thrombocytopenia) and polyclonal hypergammaglobulinemia. X ray of femurs and humerus showed a metaphysal multicystic osseous changes with endosteal cortical erosions. X ray of pelvis showed an osteosclerosis of iliac bones, lytic process of pubis symphysis and pathological fracture of both ischiopubic bones. MRI showed medullar bone infiltration in femurs, pelvis and humerus. ^{99m}Tc bone scan was normal. On liver as well as on bone marrow biopsy examination, Gaucher's cell infiltrates were detected. The level of leukocyte acid beta-glucosidase activity was very low. Hypersplenism was the indication for splenectomy. The weight of the resected spleen was 1950 gr; Following surgery, the patient noted an exacerbation of major joint pain and bone pain involving both femurs and humerus which improve after one week of non steroidal anti-inflammatory drugs. Hypersplenism (thrombocytopenia in particular) was improved. Hepatomegaly without evidence of

hepatic dysfunction persisted. Enzyme replacement therapy wasn't available.

Results

Conclusion

THU0163 CORTISOL AND PROLACTIN LEVELS IN RHEUMATOID ARTHRITIS AND SYSTEMIC LUPUS ERYTHEMATOSUS

E Grabocka, A Tafaj, A Këlliçi. *Clinic of Rheumatology, Hospital University Center "Mother Theresa", Tirana, Tirana*

10.1136/annrheumdis-2001.1065

Background Accumulated evidence suggests the existence of bidirectional communication between the neuroendocrine and immune systems. The pituitary gland can regulate the immune response secreting both immunostimulatory [e.g. prolactin (PRL)] and immunosuppressive (cortisol via ACTH) hormones. A disorder of the immunoregulatory circuit between these systems could potentially result in the development of immune mediated diseases. Hiperprolactinemia has been implicated in the pathogenesis of systemic lupus erythematosus (SLE), Reiter's Syndrome and psoriatic arthritis. Elevated PRL levels have been described in patients with rheumatoid arthritis (RA). However, clinical studies regarding the PRL level and disease activity have yielded contradictory results.

Objectives In this study our aim was to assess prolactin and cortisol plasma levels in patients with RA and SLE and to evaluate their correlation with disease activity.

Methods PRL and cortisol plasma levels were measured in 40 female patients aged (24 RA patients and 16 SLE patients) 38.88 ± 14.44 and 40 age-matched healthy controls. Pregnant patients, patients taking drugs that could increase PRL or cortisol levels and those with renal and/or hepatic failure, were excluded from the study. All subjects were premenopausal women with regular menstrual cycles. Plasma concentrations of prolactin and cortisol were determined by radioimmunoassay under standardised conditions in venous blood drawn through an indwelling cannula. Disease activity was assessed using the Disease Activity Score (DAS) for the RA patients SLEDAI for SLE patients.

Results The mean PRL plasma level was higher in RA and SLE than in the control group (13.8 ± 6.1 ; 15.6 ± 4.2 vs. 8.78 ± 2.43 , respectively, $p < 0.05$). Cortisol plasma levels were found to be higher in the RA and SLE patients than in controls, but there were not significantly different (14.2 ± 3.6 ; 16.3 ± 3.3 vs. 13.1 ± 2.8 respectively, $p > 0.05$).

Conclusion No difference was found in prolactin and cortisol levels between RA and SLE patients.

A correlation between prolactin and cortisol levels was found only in SLE patients ($p < 0.05$).

No correlation was found between PRL or cortisol levels and disease activity in RA and SLE subjects.

THU0164 IS SOLUBLE CD44 ISOFORM VARIANT 5 USEFUL AS PREDICTING FACTOR AND AS PARAMETER FOR LONG-TERM OBSERVATION IN RHEUMATOID ARTHRITIS?

M Skoumal, G Kolarz, A Wottawa. *Institute for Rheumatology in Cooperation with the Donau Universität Krems, Rheumasonderkrankenanstalt Der SVA Der Gewerblichen Wirtschaft, Baden, Austria*

10.1136/annrheumdis-2001.1066