Results The frequency of visits to the 'static' pages were as follows: news items (27%), pharmacologic treatment (21%), diagnostic/therapeutic guidelines (21%), event broadcasts (12%), disease-specific education (10%), and nonpharmacologic management (8%). Highlights of the ACR meetings were one of the most heavily accessed 'news item' postings on the Site. For the interactive forums, treatment related postings constituted the majority of postings: 55% of questions in 'Ask the Expert', and 70% of postings to the Message Board. 'Hits' to the Site, and time spent on the Site, have increased steadily since launch, currently totalling 1,200,000 hits and 12 min per month, respectively.

Conclusion The versatility of the Internet confers the unique ability to constantly update educational data bases. The desire for updated information is reflected on this Arthritis Web Site by the high frequency of visits to treatment and news related pages. Credible educational websites can effectively complement traditional on-site educational forums.

Cytokines and inflammatory mediators

AB0009 TNF ALPHA AS A MARKER OF ARTICULAR INVOLVEMENT IN PATIENTS INFECTED WITH HIV

GG Bagnato, C Romano, C Arrigo, G Chirico. *Department of Internal Medicine, Division of Rheumatology, Policlinico Universitario, Messina, Sicily*

10.1136/annrheumdis-2001.808

Background In the last years great attention was given to the problems correlated to Hiv infection. The clinical rheumatologic manifestations correlated to Hiv infection generally are oligo-polyarthritis, polyarthritis or Reiter Syndrome. The Hiv arthritis usually oligoarticular and asymmetric, involves the big articulations and it isn't correlate to Hla B27 aploype. Some studies demonstrated an articular involvement in about 30% of the patients. Seems that the particular problems are correlated with a disregulation of the immune system with a sovraexpression of some pro-inflammatory cytokines.

Objectives Aim of this study was to evaluate the prevalence of rheumatologic manifestations in patients with Hiv infection and to evaluate if there was a correlation between articular involvement and sovraexpression of TNF alpha that is such important in articular omeostasis.

Methods We selected 46 patients with Hiv infetion, mean age 39 (22-59), 10 healthy subjects and 10 with rheumatoid arthritis as negative and positive controls. At the beginning of this study we did an articular evaluation with a questionnaire with 10 items regarding rheumatological problems in all the Hiv+ patients.

Results We found rheumatologic manifestations in 11(24%) and the most common was the presence of diffuse polyartralgias. Seric TNF alpha levels were increased in the Hiv group with articular involvement and was normal in those without articular involvement ($p = 0,02$) but there weren't statistical differences between the 2 groups for CD4 count and viral load.

Conclusion TNF alpha seems to be a clear index of articular involvement in patients with HIV infection but doesn't seems to be correlated to viral load and progression of disease.

AB0010 INCREASED COLLAGEN PRODUCTION BY HUMAN LUNG FIBROBLASTS IN THE RESPONSE TO TUMOUR NECROSIS FACTOR-RELATED APOPTOSIS-INDUCING LIGAND

VV Yurovsky. *Department of Medicine, University of Maryland, Baltimore, USA*

10.1136/annrheumdis-2001.809

Background Tumour necrosis factor-related apoptosis-inducing ligand (TRAIL), also called Apo-2 ligand, is a member of the TNF family that has been reported to induce apoptosis in a variety of transformed cell lines, as well as in normal human hepatocytes *in vitro*. Among the family members, TRAIL displays highest homology to CD95 ligand, receptor of which may not only mediate apoptosis of T cells, but also mediate the proliferation of normal human fibroblasts. Considering structural and functional similarities between TRAIL and CD95 ligand, we examined the effects of soluble TRAIL on normal human lung fibroblasts. Collagen a2(I) mRNA expression in fibroblasts was measured by RT-PCR, with ribosomal protein S9 as an internal standard. Normalised collagen mRNA expression was increased in fibroblasts stimulated with TRAIL for 1 or 7 days, with peak response (> 5 -fold increase) at 10 ng/ml TRAIL. The increased expression of collagen a2(I) gene was confirmed by cDNA microarray that also revealed 72 other genes with expression level increased and 108 genes with expression level decreased ^a 2.2-fold in comparison with quiescent fibroblasts. There was little, if any, effect of TRAIL on fibroblast proliferation. The expression of TRAIL was also found in CD8⁺ T cell clones that had undergone oligoclonal expansion in the lungs of patients with systemic sclerosis (scleroderma) and were able to stimulate collagen production in lung fibroblasts *in vitro*. These data suggest that TRAIL can enhance collagen production by fibroblasts that are resistant to TRAIL-induced apoptosis.

Objectives

Methods

Results

Conclusion

AB0011 THE ESTIMATION OF SYNOVIAL FLUID IMMUNOLOGICAL PARAMETERS IN RHEUMATOID ARTHRITIS

VV Bazarniy, NS Petrovich, SV Tsvirenko, GA Tsaur. *Laboratory Diagnostic, Ural State Medical Academy, Ekaterinburg, Russia*

10.1136/annrheumdis-2001.810

Background

Objectives Laboratory synovial fluid (SF) tests are often held for joints condition, stage and acuteness of the inflammatory processes estimation. Immunological exams of SF is not routine procedure in clinical practice. We have studied the opportunity of immunological tests used in diagnostics of rheumatoid arthritis (RA).

Methods 44 patients (24 females and 20 males) with RA, diagnosed according to the American Colleges of Rheumatology criteria (1987) were examined. 29 of them have been seropositive. SF was taken by standard knee arthrocentesis. An immunological SF testing included determination of the levels of immunoglobulins A, M, G(IgA, IgM, IgG); C-reactive protein; circulating immune complex; complement proteins; interleukin-1beta (IL-1beta) and tumour necrosis factor alpha TNF-alpha; rheumatoid factor (RF); phagocyte activity tests. These parameters were also determined in the venous blood of the RA patients.

Results In patients with RA the significant increasing of SF immunoglobulins, especially IgG, circulating immune complexes, complement proteins, IL-1 beta and TNF-alpha was found. C-reactive protein was relatively low. There was no significant serum IgG, phagocyte activity, IL-1 beta and TNF-alpha elevation. RF at the RA onset was higher in SF, than in serum. In RA seronegative patients was determined exclusively in the SF in low quantity.

Conclusion We concluded that immunological investigation of SF is important tool for RA diagnosis, especially in activity processes estimation.

AB0012 URINE AND PLASMA INTERLEUKIN-6 (IL-6) LEVELS IN PATIENTS WITH GLOMERULAR DISEASE

D Soldo-Jure?a, D Vergles, MI Ćulo, K Gale?ia. *Department of Medicine, University Hospital Dubrava, Zagreb, Croatia*

10.1136/annrheumdis-2001.811

Background IL-6 is involved in the induction of acute phase protein synthesis in liver cells, as well as in other systemic changes associated with infection and tissue injury. IL-6 is probably produced by mesangial cells in patients with mesangial proliferative glomerulonephritis (MPG).

Objectives The aim of this study was to determine IL-6 levels in urine and plasma of patients with primary glomerular disease ? MPG and of patients with systemic lupus erythematosus who had MPG (II class of lupus nephritis according to WHO).

Methods The study included 23 patients and 10 healthy volunteers. 12 out 23 patients had MPG and 6 had SLE and MPG. 5 out 23 patients had membranoproliferative glomerulonephritis. Plasma and urine IL-6 levels were determined using sensitive bioassay.

Results Measurable quantities of IL-6 were detected in the urine (mean $\pm$ SEM = 24.75 ± 0.61 pg/ml; $n = 10$) as well as in the plasma (14.18 ± 0.43 pg/ml; $n = 10$) of healthy controls. Increased urine IL-6 levels were found in patients with primary and secondary (with SLE) MPG (29.75 ± 0.75 ; $n = 17$; $p < 0.01$), while in patients with membranoproliferative glomerulonephritis the IL-6 concentration did not differ from the control values (25.24 ± 1.4 ; $n = 5$; $p > 0.05$). In plasma the mean IL-6 concentration in patients with MPG and SLE was slightly but not significantly higher than in the healthy subjects.

Conclusion The data show that the presence of IL-6 in urine but not in plasma, may be a valuable indication of the disease in the majority of patients with primary MPG and patients with SLE who had MPG.

AB0013 SOME CYTOKINES AND BONE MARKERS IN OSTEOARTHRITIS

H Hulejova, P Spacek, M Adam. *Connective Tissue Research, Institute of Rheumatology, Prague, Czech Republic*

10.1136/annrheumdis-2001.812

Background Osteoarthritis (OA) is a dynamic process involving joint as an organ and causing successive loss of structural integrity of different joint compartment constituents. OA is not a single disease entity but it is a group of overlapping disorders in which articular cartilage and subchondral bone are disturbed. Synovitis and formation of granulation tissue in subchondral

bone take place in many patients with OA. Therefore at least some OA forms may be classified rather as inflammatory disease rather than degenerative disease. It is also a process where different biochemical factors besides mechanical take place.¹

Objectives To elucidate the participation of some cytokines in OA pathological processes and to compare their values with those of bone markers.

Methods In sera of 32 OA patients in early as well as late stages with levels of IL-1b, IL-6, IL-8 and TNFa were established in Immulite (DPL, Los Angeles, CA, USA). Because serum levels of IL-1b and IL-6 were normal in all patients, in extracts from tissues obtained in TEP installation, only IL-8 and TNFa levels concentration were determined. Urinary pyridinoline (UPD) and deoxypyridinoline (UDPD) were determined with HPLC in the equipment of Spectra Physics (San Jose, CA, USA, type SP).² Chondrex (YKL-40) and bone alkaline phosphatase (BAP) were measured with ELISA test (Metra Biosystems, CA, USA). Values of IL-8 and TNFa don't correlate with Upyr and chondrex levels.

Results Concentration of cytokines in sera, synovial fluids and tissue extracts were increased only in some patients and mainly in synovial fluid. Markers of activity were increased in the both sera and tissue extracts.

Conclusion According to the results obtained IL-1b and IL-6 do not play any role in OA processes. On the other hand tissue concentrations of IL-8 and TNFa do not correlate with bone markers and therefore they not reflex activity of pathological process.

REFERENCES

- Westacott CI, Sharif M. Cytokines in osteoarthritis: mediators or markers of joint destruction? *Semin Arthritis Rheum.* 1996;**25**(4): 254-72
- pašek P, Hulejová H, Adam M. Ion exchange HPLC determination of pyridinium crosslinks in urine as markers of bone resorption. *J Liq Chem Rel Technol.* 1997;**20**(12):1921-30

AB0014 TUMOUR NECROSIS FACTOR-ALPHA IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

AG Borodin, AA Baranov, EL Nasonov, NG Klukvina. *Department of Therapy, Medical Academy, Yaroslavl, Russia*

10.1136/annrheumdis-2001.813

Background

Objectives

Methods To obtain information about the involvement of tumour necrosis factor-alpha (TNF-a) in the pathophysiology of SLE this cytokine was measured, by an enzyme linked immunosorbent assay, in sera from 109 patients (pts) with systemic lupus erythematosus (SLE) (44 men and 65 women). The results were compared with 20 healthy subjects. The mean level of TNF-alpha was 84.4 ± 43.2 pg/ml in males (0-859 pg/ml) and 11 ± 7.4 pg/ml in females (0-192.2 pg/ml). The difference between male and female cohorts was significant ($p < 0.002$). The mean level of TNF-alpha was 0.6 ± 0.8 (0-8.5 pg/ml) in donors. Patients of both groups (males and females) had a significantly higher serum TNF-alpha than control subjects ($p < 0.001$).

Results TNF-alpha was found positive (more than 3s.d. above the mean in normal controls) in 17 females (26%), 36 males (81.8%) in pts with SLE compared to 1 person (5%) of normal controls ($p < 0.05$). Data differed statistically between patients in male and female groups and controls. The raised level of TNF-alpha was defined as low, moderate and high positive. We have found the low-positive TNF-alpha in 2 pts (3%), the moderate-positive in 8 pts (12%) and the high-positive in 7 pts (10%) in females. We found significant positive correlation