this joint could be a useful site for rapid quantitative screening for skeletal destruction.

REFERENCE

- 1 Feige, et al. *Ann Rheum Dis.* 2000;**59**(Suppl 1):148

THU0084 THE CD14⁺/CD16⁺ MONOCYTE SUBSET IN RHEUMATOID ARTHRITIS AND SYSTEMIC LUPUS ERYTHEMATOSUS

AP Cairns, AD Crockard, AL Bell. *Queen's University Department of Rheumatology, Musgrave Park Hospital, Belfast, UK*

10.1136/annrheumdis-2001.961

Background Most human peripheral blood monocytes strongly express surface CD14, and do not express CD16 (CD14⁺/CD16⁻). A smaller group of monocytes express lower levels of CD14 and also express CD16 (CD14⁺/CD16⁺). This subgroup has different phagocytosing and antigen-presenting capabilities, and is expanded in a number of disease states.¹ Monocyte-derived macrophages and dendritic cells have important roles in the pathogenesis of both rheumatoid arthritis and SLE.

Objectives To determine the percentage of circulating CD14⁺/CD16⁺ monocytes in rheumatoid arthritis and systemic lupus erythematosus (SLE) and relate this to measures of disease activity and treatment.

Methods Peripheral blood was sampled from 31 SLE patients, 19 rheumatoid arthritis patients and 19 healthy controls. The percentage of CD14⁺/CD16⁺ monocytes was determined by immunofluorescence labelling and dual colour flow cytometry.

Results The percentage of CD14⁺/CD16⁺ monocytes was significantly reduced in rheumatoid arthritis (median = 4.90%) compared to normal subjects (median = 7.30%, $p = 0.014$), and in rheumatoid arthritis compared to SLE patients (median = 9.40%, $p = 0.009$). There was a trend towards a higher percentage of CD14⁺/CD16⁺ monocytes in SLE compared to normal subjects, but this did not reach statistical significance. A negative correlation of percentage CD14⁺/CD16⁺ monocytes with serum C-reactive protein level was observed ($r = -0.461$, $p = 0.001$). Drug treatment (including corticosteroid dose) did not correlate with the percentage of CD14⁺/CD16⁺ monocytes in rheumatoid arthritis or SLE.

Conclusion The percentage of CD14⁺/CD16⁺ monocytes in rheumatoid arthritis is lower than in normal subjects and in SLE, and this may contribute to the pathogenesis of rheumatoid arthritis.

REFERENCE

- 1 Ziegler-Heitbrock HW. *Immunol Today* 1996;**17**(9):424-8

THU0085 IL-15 ENHANCES EXPRESSION OF MRNA ENCODING ANTI-APOPTOTIC PROTEIN BCL-XL AND TRIGGERS PROLIFERATION OF RHEUMATOID ARTHRITIS FIBROBLAST LIKE SYNOVIOCYTES

¹MS Kurowska, ¹E Kontry, ¹I Janicka, ¹W Rudnicka, ²J Kowalczewski, ¹W Maslinski. ¹Department of Pathophysiology and Immunology, ²Clinic of Orthopaedy, Institute of Rheumatology, Warsaw, Poland

10.1136/annrheumdis-2001.962

Background The hallmarks of rheumatoid arthritis (RA) are leukocytic infiltration of the synovium and expansiveness of fibroblast like synoviocytes (FLS). The abnormal proliferation of FLS

as well as their resistance for apoptosis is thought to be mediated, at least in part, by the overproduction of proinflammatory cytokines and growth factors. IL-15, a T-cell growth factor, has been suggested to play an important role in the pathogenesis of RA. In the present study we tested the hypothesis that IL-15 contributes to FLS expansiveness.

Objectives The aim of this study was to: (i) examine whether RA-FLS express all three receptor chains, i.e. IL-15Ra, IL-2Rb and IL-2Rg required for functional IL-15 receptor complex; (ii) investigate the effect of IL-15 on RA-FLS proliferation; and (iii) analyse IL-15 triggered expression of mRNA encoding anti-apoptotic: Bcl-xL and Bcl-2, and proapoptotic Bcl-xS proteins in these cells.

Methods Synoviocytes isolated from synovial membrane of RA patients (cultured for 2-7 passages) or PBMC from healthy donors were stimulated with TNF- α (10 ng/ml), IL-1b (1ng/ml) or IL-15 (25 ng/ml) in medium supplemented with 5% or 0.1% FCS. After 4 h stimulation, levels of mRNA encoding IL-15Ra, IL-2Rb, IL-2Rg, Bcl-2, Bcl-xS and Bcl-xL were analysed by RT-PCR. The expression of surface IL-15Ra was tested using flow cytometry after 24-48 h stimulation. Proliferation of the FLS was determined based on the incorporation of 3H-thymidine after 72 h pretreatment with 0.1% FCS then 24 h stimulation with IL-15 in medium with 0.1% FCS.

Results Human FLS express mRNA encoding IL-15Ra isoforms and IL-2Rb and γ chains. Interestingly, TNF- α or IL-1 b trigger significant elevation of mRNA encoding IL-15Ra isoforms (3 times), but not IL-2Rb or γ chains. Flow cytometric analysis confirmed the enhancement of IL-15Ra protein expression. The IL-15 receptor complex is functional: IL-15 increased (by ~ 68%) proliferation of FLS in medium with low (0.1%) FCS. Moreover, in these conditions, IL-15 triggers significant elevation of mRNA encoding anti-apoptotic protein Bcl-xL, while the pro-apoptotic Bcl-xS remained unchanged. However, unlike in PBMC, IL-15 fails to rise the level of anti-apoptotic bcl-2 mRNA in FLS.

Conclusion Our studies indicate that IL-15, via enhancement of anti-apoptotic Bcl-xL and increased proliferation is, at least in part, responsible for expansive behaviour of FLS.

THU0086 SERUM IL-15 LEVELS AND PERIPHERAL BLOOD LYMPHOCYTE (PBL) CD69 EXPRESSION IN RHEUMATOID ARTHRITIS (RA) PATIENTS

AM Ortiz, R Garcia-Vicuña, E Tomero, A Laffon, I González-Alvaro. *Rheumatology, Hospital Universitario de La Princesa, Madrid, Spain*

10.1136/annrheumdis-2001.963

Background We have recently described that IL-15 induces higher CD69 expression on lymphocytes compared to several cytokines described in rheumatoid synovium. A growing body of evidence supports that these two molecules can play an important role in the perpetuation of synovitis in RA.

Objectives To determine IL-15 serum levels and the expression of CD69 on PBL from RA patients and to assess their possible correlation with several clinical and biological parameters.

Methods IL-15 and TNF- α serum levels were measured by ELISA (R&D Systems) and CD69 expression on PBL was assessed by flow cytometry, both in RA patients ($n = 25$) and healthy donors ($n = 15$). Each RA patient was evaluated at the time of sample collection for the following variables: morning stiffness (MS), pain visual analogic scale (0-100 mm), number of tender (TJC) and swollen (SJC) joints (Fuchs 28 joints count),