

ANF. (3) From 16 patients with RA, only one showed a C3 titre of 1:80. (4) Among the 56 native test sera from SLE and scleroderma patients, 52 had a titre of 1:10 or more and 4 were negative. (5) ANF-C3 binding cannot be shown with sera that have been inactivated at 56°C for 30 min. (6) No correlation could be found between ANF titre and ANF-C3 binding. (7) The demonstration of C3 binding in native test sera had the highest differential diagnostic value (see Figure). The method is simple and the reproducibility very good.

References

- MACSWEEN, R. N. M., ET AL. (1968) *Clin. exp. Immunol.*, **3**, 17 (A clinico-immunologic study of serum and synovial fluid antinuclear factors in rheumatoid arthritis and other arthritides)
- MÜLLER-ECKHARDT, ET AL. (1968) *Blut*, **17**, 227 (Untersuchung zur Bedeutung des Fluoreszenz-Antiglobulintests und des Anti-globulin-Konsumptions-tests zum Nachweis antinukleärer Serumfaktoren)
- SVEC, K. H., AND VEIT, B. C. (1967) *Arthr. and Rheum.*, **6**, 509 (Age-related antinuclear factors immunologic characteristics and associated clinical aspects)
- VISCHER, T. L., AND ZIFF, M. (1969) *Acta Rheum.*, **24**, 9 (Autoimmun-factoren bei der primär-chronischen Polyarthritits)
- ZITMAN, D. AND CEBICAUER, L. (1968) *Vnitřní Lek.*, **14**, 166 (Triedy antinukleárných imunoglobulínov a typu jadrových fluorescencií)

A study of the incidence of articular chondrocalcinosis in Paget's disease of bone. By I. BOUSSINA, J. C. GERSTER, J. EPINEY, and G. H. FALLET (*Department of Medicine, Division of Rheumatology and Medical Out-Patients Clinic, University of Geneva*)

Several authors have suggested a relationship between Paget's disease and articular chondrocalcinosis (ACC), but in our opinion without sufficient proof. In order to determine whether such an association does in fact exist, ACC was systematically sought in 66 patients suffering from Paget's disease. Seventy-two subjects without Paget's disease, taken at random from a population of patients hospitalized for medical or surgical conditions, constituted the control group. They are of the same race and their age and sex distributions are similar to those of the patients suffering from Paget's disease.

Among the 66 pagetoid patients, average age (median) 76 years, 9 cases of ACC have been found. This represents an incidence of 13.6% of the group. Of the 72 control subjects, average age (median) 73 years, 7 were found to have ACC. This represents an overall incidence of 9.7% of the control group but the difference is not statistically significant.

From this study we conclude that ACC does not occur more frequently in Paget's disease than in a group of control subjects with the same age distribution.

Incidence of cathepsin D agglutinators in sera, synovial fluids, and exudate cells and synovial tissue of patients with RA and other rheumatic diseases. By K. Fehr, G. Artmann, M. Velvart, and A. Boni (*Universitäts-Rheumaklinik, Zurich*)

Incidence and titre of cathepsin D agglutinators (e.g. antibodies reacting specifically with human Fab₂ produced by cathepsin D) are significantly raised in sera of patients with seropositive RA when compared with healthy blood donors, seronegative RA, SLE, ankylosing spondylitis, osteoarthritis, and trauma ($P < 0.0005$). Significantly raised levels are also found in synovial fluids of seropositive RA patients when compared with seronegative RA, other forms of arthritis, and osteoarthritis ($P < 0.0005$).

to $P < 0.01$). In addition, cathepsin D agglutinators were found in the tissue culture medium of incubated synovectomy specimens from 7 out of 11 seropositive RA and 2 out of 7 seronegative RA, but not in 6 incubates of patients with other rheumatic diseases. In the sera the levels of these antibodies were positively correlated with the levels of RF if the RF were determined by IgG anti-CD Ripley coated erythrocytes, but not if the RF were determined by the Waaler-Rose or latex test.

By immunofluorescence studies using FITC-labeled Fab₂, binding of Fab₂ to synovial exudate inclusions (phagolysosomes) occurred in 100% of seropositive RA and about 80% of seronegative RA if the exudate cells showed evidence for phagocytosis of immune complexes. Preliminary results with rheumatoid synovium of both seropositive and seronegative RA patients suggest that mononuclear cells suggestive of plasma cells can bind labeled Fab₂. These findings suggest (1) that there might be a link between the production of cathepsin D agglutinators and agglutinating RF in seropositive RA; (2) that cathepsin D agglutinators may be produced in the synovium of RA patients; and (3) that cathepsin D agglutinators take part in the formation of immune complexes in the rheumatoid synovial exudate.

Frequency of the atypical gene E₁^a of serum cholinesterase among patients with ankylosing spondylitis. By A. MICHELI (*Department of Medicine, Division of Rheumatology, University of Geneva, Switzerland*)

A familiar incidence of ankylosing spondylitis (AS) has been described on several occasions. In addition, it has recently been pointed out that HL-A 27 antigen is found with a high incidence in this disease.

The present study, initiated before this relationship between HL-A 27 and AS was known, was prompted by the discovery in twin sisters, homozygotes for the atypical E₁^a gene of serum cholinesterase, of a bilateral sacroiliitis. The question was tentatively raised of a relationship between the E₁^a cholinesterase gene and AS. In a preliminary study on 10 patients with AS, three were found to have the E₁^a gene, representing an incidence of 30% as compared to 5% in a large control population.

Among 115 cases presently being investigated, 7.8% have the E₁^a cholinesterase gene. A difference is thus still apparent, although not statistically significant, if the frequency of patients bearing the E₁^a gene is considered. However, if the frequency of the gene E₁^a itself is considered, since another homozygote was found among AS patients, it raises the percentage to 9.8 and the difference compared with the control group is statistically significant ($P < 0.015$).

In order to confirm this apparent relationship between cholinesterase atypical gene and AS, further studies would be necessary on other groups of patients, and the co-incidence of this gene with some particular criteria or features of this rheumatic disease should be looked for. This aspect is presently under study.

Liver function tests and liver biopsies in patients with rheumatoid arthritis. By R. RAU, K. PFENNINGER, and A. BONI (*Rheumaklinik Stadtspital Triemli und Universitäts Rheumaklinik, Zurich*)

In patients with rheumatoid arthritis a total of 117 liver biopsies and liver function tests were performed. Liver