PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

ANCAs in patients with early RA

ArticleInfo		
ArticleID	:	168
ArticleDOI	:	10.1186/ar-2000-66828
ArticleCitationID	:	66828
ArticleSequenceNumber	:	125
ArticleCategory	:	Paper Report
ArticleFirstPage	:	1
ArticleLastPage	:	3
ArticleHistory	:	RegistrationDate : 2000–7–31 OnlineDate : 2000–7–31
ArticleCopyright	:	Current Science Ltd2000
ArticleGrants	:	
ArticleContext	:	130753311

Carrock Sewell,[Aff1]

Aff1 Royal Free and University College Medical School, London, UK

Keywords

ANCA, antineutrophil cytoplasmic antibodies, prognosis, rheumatoid arthritis

Context

pANCAs are well recognised in RA as well as other inflammatory disorders. There are various reports of pANCAs signifying particular organ involvement in RA, yet the antigenic specificity of ANCAs in RA is often mixed. To investigate the role of ANCAs in determining the long-term outcome of patients with early (within 1 year of onset) RA, to examine disease activity in relation to ANCAs status, and to study the overlap between ANCA and other serological markers of RA (RF, antiperinuclear factor [APF], antikeratin antibodies [AKA], and ANCA specificity).

Significant findings

Data were obtained for 80 out of 82 subjects. Fifty percent of patients were ANCA-negative at entry, with 40% still ANCA-negative by 84 months (n = 45 patients total at 84 months). At entry 66% were RF-positive; 78% of ANCA-positive patients were also RF-positive at entry. Small numbers of extra-articular manifestations of RA meant that no conclusions could be drawn regarding ANCA status and these manifestations. ANCA-positivity did not relate to age or sex of the patient, nor to CRP, ESR or haemoglobin estimations. Measures of clinical severity were similar between ANCA-positive and ANCA-negative patients at entry. By 7 years, however, ANCA-positive patients had significantly greater radiological disease progression ($P = 0.0015$). Higher pANCA titre was also associated with more advanced progression by 5 years ($P= 0.04$). Stepwise logistic regression analysis showed that pANCA-positivity at disease onset was a significant independent predictor of radiological joint destruction by 84 months; raised ESR predicted disease progression at 12, 36, 60 and 84 months; RF-positivity was predictive for progression by 36 months. In only 28% of the pANCA-positive patients could the antigenic specificity be determined.

Comments

This study is clinically useful because it assessed patients with early (= 12 months) rheumatoid arthritis (RA) and measured disease progression in patients treated with disease modifying antirheumatic drug(s) (DMARDs). It suggests that antineutrophil cytoplasmic antibody (ANCA) positivity is independently predictive of more rapid radiological disease progression by 7 years after diagnosis, but not predictive of more severe clinical symptoms (although this may reflect patients being on active treatment). This complements using erythrocye sedimentation rate/C-reactive protein (ESR/CRP) and rheumatoid factor (RF) assays. Which assays are used for perinuclear ANCAs (pANCA) is important, and the use of formalin-fixed neutrophils is not recommended in British practice (Chowdhury *et al, J Clin Pathol* 1999, **52**:475-477). Laboratories which use enzyme immunoassay (EIA) alone for pANCA determination would miss 72% of the ANCA-positive patients found in this study!

Methods

Patients with RA within 1 year of onset (67 female, 15 male), with a mean age 44.4 years, entered the study prospectively (none on prior DMARDs or oral steroids). After entry all received gold, sulphasalazine or methotrexate according to the sawtooth strategy. Clinical and serological assessment was determined at 0, 12, 36, 60 and 84 months. Clinical assessment used the Ritchie Articular Index, number of swollen joints, duration of morning stiffness and severity of pain. Radiographic changes in the hands were graded using the Larsen criteria for 5th metacarpophalangeal (MCP), 1st interphalangeal (IP), 2nd-5th proximal interphalangeal (PIP) joints of hands and 1st-5th metatarsophalangeal (MTP) joints of feet. ANCAs were measured using indirect immunofluorescence on ethanol- and formalin-fixed human neutrophils, and titrated. Antinuclear antibodies were measured on rat liver and kidney sections. The presence of RF was detected by Rose-Waaler technique. Commercial EIA kits were used for ANCA specificity, with in-house kits for certain analytes.

References

1. Mustila A, Paimela L, Leirisalo-Repo M, Huhtala H, Miettinen A: Antineutrophil cytoplasmic antibodies in patients with early rheumatoid arthritis. Arthritis Rheum. 2000, 43: 1371-1377.