Does the age of onset of rheumatoid arthritis influence phenotype?: a prospective study of outcome and prognostic factors

Sir, We read with interest the article by Pease *et al*. [1] which examined disease outcome in patients with early rheumatoid arthritis (RA), according to age at disease onset. The authors found that patients with late-onset RA—'LORA' (onset after age 64 yr)—had similar levels of functional disability and erosions at a median follow-up time of 3–4 yr, compared with those with younger-onset RA—'YORA'. This is in accordance with results from the Norfolk Arthritis Register. However, the authors report a significantly higher rate of clinical remission among patients with LORA. They suggest that this may be due to the higher frequency of steroid use in the elderly, which may induce remission in patients who satisfy classification criteria for RA but who have other disorders which mimic RA. This does not agree with the findings from our study, in which there was a linear relationship between decreasing age at onset and disease remission. The highest remission rates were seen in patients (especially males) under 25 yr [2]. When we dichotomized patients according to age at onset (<65 yr; ≥ 65 yr), there was no difference in remission rates.

There are three possible explanations for the differences between the study of Pease *et al.* and the Norfolk study, which relate to: (i) the definition of remission used; (ii) the influence of drug treatment; and (iii) the nature of the study population. These are explored below.

To determine whether the differences were due to the definition of remission, we investigated remission rates at 3 yr in a subgroup of 231 patients referred to the Norfolk Arthritis Register who satisfied classification criteria for RA. The results, using a number of definitions of remission, are shown in Table 1.

Although the remission rates clearly differ depending on the definition used, we still did not find higher remission rates in the elderly. With regard to possible differences in treatment between the two studies, we also found the frequency of steroid use to be much higher in the elderly (LORA: 39% *vs* YORA: 7%), but in our study this was not associated with higher remission rates.

Consequently, it is likely that the differences relate to the characteristics of the study populations. We recruited patients newly presenting with joint swelling to primary care, whereas Pease *et al.* studied patients with early RA referred to rheumatology clinics. It is therefore possible that elderly patients with certain disease characteristics which may adversely influence response to treatment (e.g. insidious onset) are not being referred to hospital. However, it is important to note that other studies of hospital-based patients have also reported lower remission rates in the elderly [3, 4] or have found no association between remission rates and age [5]. These results serve to reinforce the authors' final conclusion that treatment approaches should be as aggressive in the elderly as in younger patients.

B. J. Harrison, A. J. Silman, D. P. M. Symmons

ARC Epidemiology Research Unit, Stopford Building, Oxford Road, Manchester M13 9PT, UK
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Reply

We are grateful for Harrison *et al.*'s interest in our paper [1]. In our study we observed a high remission rate in the seronegative late-onset rheumatoid arthritis (LORA) patients compared with the seropositive patients.

The Norfolk study did not compare remission rates in seropositive and seronegative patients, thus our data are not directly comparable [2].

The remission rate of 59.8% in seronegative LORA

patients is similar to that quoted by Tunn and Bacon (55%) in their study of unselected early polyarthritis [3]. Fifty-four per cent of our LORA patients developed erosions, this rose to 62.5% if they were seropositive, but in those who were seronegative 60% did not have erosions. Whether this group who fulfilled ARA criteria for rheumatoid arthritis at onset had genuine rheumatoid arthritis or a self-limiting synovitis remains an unresolved issue.

Our study has highlighted a good prognostic group in the elderly much in the same way that their study has suggested that young men with polyarthritis are likely to remit.

C. T. Pease, B. Bhakta, J. Devlin, P. Emery

Leeds General Infirmary, Great George Street, Leeds LS1 3EX, UK

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