LETTER TO THE EDITOR

Age specific mortality in Finnish women with chronic inflammatory joint diseases during 1977–93

It has been known for 40 years ago that rheumatoid arthritis (RA) is associated with reduced life expectancy,[1] a finding confirmed by numerous studies.[2–4] Most RA mortality studies compare observed deaths in patient cohorts with expected from reference populations or case controls. Because of differences in composition of study series, length of follow up, and means to express the findings, the figures are not fully comparable. Crude death rates, however, have not improved.[3 4] In 1953, Cobb *et al*[1] reported a standardised mortality ratio (SMR) of 1.3; in the recent study by Wolfe *et al*[5] the SMR was 2.3. In this study we have made use of the Finnish nationwide sickness insurance statistics to follow up age specific mortality in women with chronic inflammatory joint diseases during a 17 year period.

Since 1966, the Sickness Insurance Act has provided for the prescription of drugs (glucocorticoids, non-steroidal anti-inflammatory drugs, and disease modifying antirheumatic drugs) free of charge, usually lifelong, for chronic inflammatory joint diseases (since 1987, 90% of the costs have been reimbursed). The scheme covers the entire population, and almost all patients with RA make use of it.[6] Eligibility requires a medical certificate written by the attending physician and approved by an expert adviser on behalf of the sickness insurance scheme. All inflammatory joint diseases are grouped under one code in the Social Insurance Institution's register. The main subsets are RA, juvenile chronic arthritis, ankylosing spondylitis, chronic reactive arthritis, and psoriatic arthritis. Systemic connective tissue diseases and gout are grouped under another code.

As described elsewhere,[6 7] for most (>90%) female patients the diagnosis in the certificate has been RA. The proportion has remained about the same during the study period. Likewise, the criteria to diagnose RA have been the same. This study was limited to women because their total mortality closely reflects mortality in RA. Information on the entitlements because of chronic inflammatory joint diseases (number and age distribution of cases and of the dead) was obtained from the statistics of the Social Insurance Institution. Comparable figures were available for the years 1977–84 and 1986–93.

Information on the age structure of the population and on age specific mortality were obtained from the official demographic statistics. Based on the above figures, observed/expected mortality rates for women with specially reimbursed medication were computed for four four year periods (1977–80, 1981–84, 1986–89, and 1990–93).

The mortality in women with chronic inflammatory joint diseases was higher than in the Finnish female population in all age groups and throughout the study period (table 1). In the age group 15–44 years the observed/expected mortality rate declined from 3.4 in 1977–80 to 2.0 in 1990–93 (p for trend = 0.013). In older age groups the observed/expected mortality rates tended to increase. The increase from the years 1977–80 to the years 1990–93 was statistically significant in the age groups 65–74 years, 75–84 years, and 85 years and over.

In age goups up to 74 years the number of deaths during the study period remained unchanged, but increased in age groups 75 years or over (table 1). This increase was greater than that noted in the Finnish population; it is prudent to assume that predominantly mild instead of severe cases were included. Without this presumed shift in the severity profile the rising trend in the observed per expected mortality ratio in the oldest age groups might have been more pronounced than now observed.

In the 1960s, when few hospital based units provided specialist care for rheumatic diseases, the Rheumatism Foundation Hospital served as a national centre for the treatment of chronic inflammatory joint diseases. In the 1970s and early 1980s, rheumatology departments for adult patients were established in most hospitals. This facilitated the introduction of disease modifying antirheumatic drugs to patients at the early phase of the disease and rehabilitation in advanced disease. In the late 1980s, treatment with cytostatic drugs gained acceptance. It might be expected that this progress could have been reflected in recent years as declining mortality trends in RA patients.

Indeed, a decline was observed in the age group 15–44 years; it would have been even more pronounced if mortality from diseases and from violence could have been separated because, based on recent statistics, about half the deaths in this age group are from violence and there is no excess mortality from violence in RA patients.[6] In contrast with the age group 15–44 years, the observed/ expected mortality rates tended to increase in the older age groups.

We have considered three possibilities, not mutually exclusive, to explain these trends. Firstly, it is possible that more emphasis has been paid on treating young patients. Since the late 1970s, treatment of patients with juvenile arthritis has been centralised at the Rheumatism Foundation Hospital. Soon thereafter, earlier than in adults, treatment with cytostatic drugs was introduced.

Secondly, RA related causes of death may be different in young and old patients and deaths in the young population may be more readily preventable by antirheumatic regimens than deaths in older patients. For instance, cardiovascular causes are important in the surplus of RA mortality[5 7 8] and probably cannot be reduced by improving antirheumatic treatment. On the other hand, amyloidosis is an important cause of death in Finnish RA patients[6] and RA patients with amyloidosis die earlier than RA patients in general.[6] A decrease in deaths from amyloidosis has been noted in Finnish patients with juvenile chronic arthritis.[9]

A third possibility is that RA is becoming less severe as has been suggested.[10] If this is manifested first in patients with early disease onset, declining mortality trend would first appear in young age groups.

Continuous monitoring of the sickness insurance statistics is a useful means to follow up the epidemiology of RA and related diseases.

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Table 1 Age specific mortality ratios in Finnish women with chronic inflammatory joint diseases during 1977–93

	Observed/expected mortality ratios and their 95% confidence intervals during four four year periods (number of deaths in parentheses)			
Age group	*1977–80*	*1981–84*	*1986–89*	*1990–93*
15–44	3.44 (2.62, 4.53) (54)	2.41 (1.73, 3.36) (37)	2.43 (1.79, 3.30) (43)	2.02 (1.47, 2.77) (40)
45–54	1.79 (1.49, 2.15) (124)	1.82 (150, 2.21) (113)	1.54 (1.26, 1.89) (99)	1.94 (1.62, 2.33) (126)
55–64	1.67 (1.52, 1.84) (472)	1.69 (1.53, 1.87) (430)	1.75 (1.58, 1.93) (420)	1.65 (1.48, 1.84) (346)
65–74	1.49 (1.41, 1.58) (1298)	1.51 (1.42, 1.59) (1302)	1.62 (1.53, 1.71) (1288)	1.65 (1.55, 1.75) (1220)
75–84	1.36 (1.29, 1.45) (1225)	1.43 (1.36, 1.51) (1693)	1.41 (1.35, 1.47) (2230)	1.45 (1.39, 1.51) (2511)
⩾85	1.19 (1.05, 1.34) (278)	1.46 (1.33, 1.60) (484)	1.32 (1.22, 1.42) (754)	1.35 (1.27, 1.43) (1141)