Reduced incidence of alcohol related deaths in subjects with rheumatoid arthritis

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Abstract

Objectives—It has previously been shown that people with ankylosing spondylitis have an increased incidence of alcohol related deaths from accidents and violence. This study investigated alcohol related deaths in subjects with rheumatoid arthritis (RA).

Methods—The study covered the subjects, 1666 in number, who had died in 1989 and had been entitled under the nationwide sickness insurance scheme to receive specially reimbursed medication for RA.

Results—There were eight alcohol related deaths among the 480 men and three deaths among the 1186 women with RA. The standardised mortality ratios and their 95% confidence intervals (CI) were 0.40 (95% CI 0.20, 0.80) and 0.40 (95% CI 0.13, 1.26), respectively.

Conclusion—Alcohol either protects from RA or, subjects with RA curtail their drinking after the manifestation of RA.

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We have previously shown that subjects with ankylosing spondylitis (AS) have an increased incidence of alcohol related deaths from accidents and violence.¹ A mortality study of psoriatic arthritis from Canada shows a statistically significant excess of deaths from injuries and poisoning (the role of alcohol was not mentioned), and as many as 8.5% of the deaths were from liver cirrhosis or liver failure.² A significant excess of deaths from liver cirrhosis was noted in a series of patients with psoriasis who had been enrolled in a photochemotherapy follow up study.³ Clearly, further studies are needed to assess the role of alcohol in various rheumatic diseases.⁴

We have previously studied the causes of death and the shortening of life span among subjects with rheumatoid arthritis (RA) who died during a one year period (1989) and had been entitled under the national sickness insurance scheme to receive specially reimbursed medication for this disease.^{5,6} We now report on alcohol related deaths in this population-based series of subjects with RA.

Methods

Since 1966, the Finnish Sickness Insurance Act has provided for the prescription of drugs free of charge for certain chronic diseases, including inflammatory joint diseases (since an amendment in 1987, 90% of the costs have been reimbursed). During the study period, glucocorticoids, non-steroidal anti-inflammatory drugs and disease modifying

antirheumatic drugs were specially reimbursed. The national sickness insurance scheme covers the entire population of Finland, and almost all patients with RA take advantage of it. Eligibility requires a comprehensive medical certificate issued by the attending physician and approved by an expert advisor on behalf of the sickness insurance scheme. All inflammatory joint diseases are grouped under one code in the population register of the Social Insurance Institution. The sensitivity of the drug reimbursement as an inclusion criterion is about 95%^{5,6} and nearly 80% of the subjects considered to have RA on the reimbursement certificate met the American College of Rheumatology 1987 classification criteria for RA.⁷

The subjects who had died during 1989 were identified by computer linkage between the Social Insurance Institution's population register and the Finnish Population Registry, using the unique identification code assigned to each Finnish citizen. Basic information on the subjects was obtained from the death certificates and from the certificates for drug reimbursement. For 1666 subjects (480 men and 1186 women) the diagnosis in the certificate was RA. This study covers these subjects.

The causes of death were classified by the Statistical Office of Finland (currently, Statistics Finland) according to the rules of the World Health Organisation using the 9th Revision of the International Classification of Diseases. The final code of death was not always the same as that given in the death certificate. Statistical Office maintains a special file of alcohol related diseases and alcohol intoxication as an underlying cause of death. Likewise, the cases in which alcohol intoxication is a contributory cause of death and the underlying cause is an accident or violence are indexed separately. These two groups were regarded as alcohol related deaths.

The following diseases were registered as alcohol related in the file of the Statistical Office: alcohol psychosis (code 291), chronic alcoholism (code 303), alcohol induced epilepsy (code 345; if the role of alcohol was indicated in the death certificate), alcoholic cardiomyopathy (code 4255), alcoholic gastritis (code 5353), alcoholic liver diseases (codes 5710–5713), alcoholic pancreatitis (codes 5770–5771; if the role of alcohol was indicated in the death certificate), and fetal alcohol syndrome (code 7607).

Information on the age structure of the subjects with specially reimbursed medication because of chronic inflammatory joint diseases

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Table 1 Alcohol related deaths according to age in subjects with rheumatoid arthritis (RA) and in the Finnish population as a whole

Age group (y)	Male		Female	
	RA Number	Population Number	RA Number	Population Number
15–44	1	968	0.00	129
45–64	5	797	2	151
≥65	2	174	1	48
Total	8	1939	3	328

Table 2 Alcohol related deaths in subjects with rheumatoid arthritis

Age at death (y)	Sex	Cause of death
44	male	chronic alcoholism*
45	male	alcohol intoxication*
50	male	alcoholic cardiomyopathy*
56	male	alcoholic liver cirrhosis*
58	male	chronic alcoholism*
63	male	suicide by hanging†
66	male	suicide by hanging†
69	male	alcoholic liver cirrhosis*
52	female	subdural haematoma†
54	female	alcohol induced epilepsy*
77	female	fracture of the femur†

*Alcohol as an underlying cause of death. †Alcohol as a contributory cause of death.

was obtained from the statistics of the Social Insurance Institution and that of the Finnish population from the official demographic statistics. The standardised mortality ratio was computed using age strata shown in table 1. In men the figure remained somewhat inaccurate because subjects with AS were included in the population with reimbursed medication.

Results

There were eight alcohol related deaths among the 480 men and three such deaths among the 1186 women with RA. The relative risk compared with the Finnish population as a whole was 0.20 for men and 0.18 for women.

The distribution of alcohol related deaths according to age among the subjects with RA and in the population as a whole is shown in table 1. The standardised mortality ratio and 95% confidence intervals (CI) were 0.40 (95% CI 0.20, 0.80) for men and 0.40 (95% CI 0.13, 1.26) for women.

Table 2 provides detailed information on the alcohol related deaths. Six deaths were from diseases and one from alcohol intoxication. Two of the four deaths from accidents and violence in which alcohol was a contributory cause were suicides and two were accidental falls.

Discussion

Reliable background information on alcohol related deaths in the basic population is crucial for a study like this one. The forensic necropsy rate in Finland is quite high, accounting for nearly 20% of all deaths. According to the Act on the Investigation of the Causes of Death, forensic necropsy is performed after virtually all deaths from accidents and violence, and

blood alcohol is determined in all these cases. In the Finnish mortality statistics, cases in which alcohol has been marked as an underlying cause of death and deaths from accidents and violence in which alcohol is a contributory cause of death are listed separately. To our knowledge, such statistics are not readily available in any other country.

The relation between alcohol consumption and mortality is J shaped, with abstainers having slightly higher mortality and heavy drinkers much higher mortality than moderate drinkers.⁸ As recently reviewed,⁹ alcohol intake seems to protect against cholelithiasis in a dose dependent fashion. The protective effect may be attributable to increased conversion of cholesterol to bile acids in liver induced by alcohol.

Two possibilities can be considered to explain the reduced incidence of alcohol related deaths in subjects with RA: either alcohol protects from RA or subjects curtail their drinking after developing RA. The corresponding possibilities to explain the increased incidence of alcohol related deaths in subjects with AS are: alcohol or some lifestyle pattern associated with drinking aggravates the symptoms and signs of AS or the pain of AS causes emotional problems that leads to relief drinking. It may, however, seem odd to suggest that subjects with AS increase, while those with RA curtail their drinking after falling ill. We thus prefer to interpret our findings as support for the earlier contention that the use of alcohol may protect from RA.^{10–11} Yet there are no good reasons to reject the other possibility. The issue is amenable for testing.

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