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Prevalence of systemic lupus erythematosus in England and Wales, 1981–2

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SUMMARY The prevalence of systemic lupus erythematosus (SLE) was estimated from a secondary analysis of data collected during the Third National Study of Morbidity Statistics from General Practice, 1981–2. A total of 20 cases, all female, were seen by general practitioners during the study period. The period prevalence of SLE was 12·5/100 000 among women of all ages and 17·7/100 000 among women aged 15 to 64. These rates are lower than those reported from other developed Western countries; this is probably due to misclassification in diagnosis or prior referral of cases to consultants for chronic care, or both.

Key words: epidemiology, morbidity.

The prevalence of systemic lupus erythematosus (SLE) has been estimated in community based studies in the United States,[1–3] New Zealand,[4 5] and Sweden,[6 7] and in a nationwide database in Finland[8]; estimates range from 6·0 to 50·8 cases/100 000 persons. Community based surveys in England and Wales conducted by the field epidemiology unit of the Arthritis and Rheumatism Council were unsuccessful in estimating the prevalence of SLE as no cases were detected in a sample of over 4000 persons; Bremner, however, detected one case in a survey of 1821 persons in Wensleydale.[9]

The measurement of morbidity requires either the routine collection of data, such as the Hospital Activity Analysis and the Hospital Inpatient Enquiry, or a specially conducted population survey, such as the National Health and Nutrition Examination Survey conducted in the United States under the auspices of the National Center for Health Statistics.[10] The general practice research unit of the Royal College of General Practitioners in conjunction with the Office of Population Censuses and Surveys conducted the third National Morbidity Survey in 1981–2.[11] This survey collected data on the number of patients consulting for specific conditions from 48 volunteer general practices, representative of practices in England and Wales in regional distribution, caring for 332 270 patients who were representative of the population of England and Wales in age, sex, and region. This manuscript reports an estimate of the prevalence of SLE based on data from this survey.

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Materials and methods

Data were obtained from the Third National Study of Morbidity Statistics from General Practice, 1981–2; a detailed description of the methodology, including practice selection, updating patient registers, recording of consultations, episodes of illness and referrals, and classification of diagnoses has been reported.[11] Cases of SLE were defined using the 9th revision International Classification of Diseases (ICD) rubric 710·0. Period prevalence was calculated as the number of patients consulting with illness classified as ICD rubric 710·0 during the study divided by the population at risk in person-years; 95% confidence intervals of these ratios were calculated based on the Poisson distribution for rarely occurring events.[12]

Results

A total of 20 patients, all female, were seen with the diagnosis of SLE during the study; the period prevalence of SLE was 12·5/100 000 among women and 6·5/100 000 overall among both sexes combined.

Table 1 *Period prevalence of systemic lupus erythematosus in women in England and Wales, 1981–82, by age*

Age group	*No of cases*	*Population at risk*	*Prevalence**	*95% Confidence interval*
0–14	—	31 533	—	0·9·5
15–24	1	24 446	4·1	0·1,22·8
25–44	9	44 866	20·1	9·2,38·2
45–64	8	32 378	24·7	10·6,48·7
65–74	1	15 191	6·6	0·2,36·7
75+	1	12 574	8·0	0·2,44·6
All ages	20	160 989	12·5	7·6,19·3

*Rate per 100 000 person years.

(Table 1). The maximal prevalence in women occurred in the 45–64 year age group; the prevalence among women aged 15 to 64 was 17·7/100 000 (95% confidence interval: 10·5, 28·0/100 000). No cases were identified among men in the study population; using Poisson estimators, the maximum period prevalence in men was 2·0/100 000.

Discussion

The prevalence estimates presented in this paper are based on patients diagnosed as having systemic lupus erythematosus by general practitioners who participated in the Third National Morbidity Survey and seen by those practitioners during the 12 month survey. The population sample was representative of the general population of England and Wales in age, sex, and regional distribution. The practitioners, although selected to be representative by region, were volunteers, were on average younger, and had larger practices with more assistants than practices nationwide.[11] Although several validation studies of practitioners diagnoses have been performed,[11 13–15] it was not possible to validate the diagnosis of systemic lupus erythematosus in this instance according to revised American Rheumatism Association criteria,[16] or to estimate the proportion of patients with SLE who might have been misdiagnosed as having rheumatoid arthritis (9th ICD rubric 714), undiagnosed polyarthritis (9th ICD rubric 714·9), or unclassified connective tissue disease (9th ICD rubric 710·9). Furthermore, because already diagnosed patients with SLE may have previously been referred to and now obtain regular care from consultant rheumatologists, there may be a systematic underestimation of the 'true' number of cases of SLE among persons on the patient registers.

The prevalence estimates in this report are uniformly lower than those reported from the United States,[2 3] New Zealand,[4 5] and Scandinavia[7 8] in the past decade, even after adjusting for differences in racial/ethnic distributions; two likely explanations are noted above. No new cases of SLE were diagnosed by the practitioners in this survey; the upper limit of the 95% confidence interval of the incidence rate of SLE in women during 1981–2 was 1·9/100 000, which, interestingly, is comparable with that of 2·5/100 000 (95% confidence intervals: 1·4, 3·6) reported by Michet and colleagues in women in Rochester, Minnesota[3] and 3·9/100 000 (95% confidence intervals: 3·0, 4·8) reported by Hochberg in white women in Baltimore, Maryland.[17]

Further analyses of these morbidity data in conjunction with hospital inpatient/discharge statistics and sociodemographic variables recorded in the 1981 census may provide additional descriptive and cross sectional epidemiologic data concerning factors associated with systemic lupus erythematosus.

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