Early Rheumatoid Arthritis: a Cross-sectional Analysis of 186 Lithuanian Patients

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Aim of the study. To describe the well-being of early rheumatoid arthritis (RA) patients – Lithuanian residents according to their demographic data, employment status, health status measures, activity, damage indices and treatment and to compare the data with the related studies from other similar countries.

Patients and methods. A cross-sectional analysis of 186 patients was carried out from the end of 1999 up to the beginning of 2003. Patients with early RA fulfilling revised ARC'87 criteria for RA and with disease duration less than 4 years were enrolled in the study. Most of the patients were selected from the rheumatological in-patient department of Vilnius Red Cross University Hospital and a few patients came from Vilnius out-patient clinics. Only patients aged 16 and more were recruited. The questionnaire contained questions concerning demography and clinical examination. For data analysis, the patients were divided into three groups according to age: the first group was younger than 44, the second was aged between 44 and 64 and the third one was older than 64.

Results. 186 patients with early RA were interviewed. Before being diagnosed with RA, the patients experienced RA symptoms for 10.1 (SD 10.7) months. Disease duration in the time of interview was 25.1 (SD 14.1) months. 142 females and 44 males, mean age 54.7 (SD, 14.3) years, were enrolled in the study. Out of 186 patients, 115 (61.8%) were Lithuanians, 35 (18.8%), were Russians, and 36 (19.4%) were of other nationalities. 53.8% of responders were employed at the onset of disease and 42.6% were still employed at the time of interview. 1.6% of responders were owners of their own enterprises. 37 (19.8%) patients had problems at work due to RA. Only education and employment situation differed in the first two groups and in the third group (p value <0.005). The clinical data showed a high disease activity in all three groups. Practically all the patients had been or were treated with non-steroidal anti-inflammatory drugs (NSAID). 72% (134) were taking corticosteroids constantly. Intra-articular steroid injections (mostly into the knee joints) had had 52 (28.0%) responders. Disease modifying antirheumatic drugs (DMARDs) were prescribed for 161 (86.6%) early RA patients. The most popular DMARD was methotrexate (57, or 30%), while sulfasalazin was the second by frequency (26.5%) among others. DMARDs more frequently were prescribed to younger patients.

Conclusions. The study patients with early RA onset experienced a higher disease burden if compared to the data on similar patients from Western countries. The major differences were observed in employment rate and disease activity scores. If compared to the population data within the country, the differences were not significant. Analysis according to the age groups revealed comparable clinical symptoms in all three groups regardless the time of onset. The treatment within the groups differed, being more aggressive for younger patients.

Key words: early rheumatoid arthritis, treatment, cross-sectional analysis

INTRODUCTION

Rheumatoid arthritis (RA) is a chronic inflammatory rheumatic disease resulting in a quick health deterioration and work disability. For different populations different numbers of RA cases (about 0.5–1% of population) are reported. Presumably there are about 10000–12000 patients with RA in our country (0.32% of adult population). Annually about 1200 new cases (1) are diagnosed in Lithuania. The social impact of RA has been first described in Western countries, however, data on the RA patients' situation from newly established countries and particularly from the Baltic States are lacking (2, 3). In the last decade the utmost attention was paid to

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early RA because of relatively manageable disease outcomes (1, 4–9) and the specific situation of each country.

PATIENTS AND METHODS

The cross-sectional analysis of 186 patients was carried out from the late 1999 up to the beginning of 2003. Patients with early RA fulfilling the revised ARC'87 criteria for RA and with disease duration less than 4 years were enrolled in the study. Most of the patients were selected from the rheumatological in-patient department of Vilnius Red Cross University Hospital, and a few patients came from Vilnius out-patient clinics. Only patients aged 16 and over were enrolled in the study. The patients were asked for their written consent. The questionnaire contained demographical data (age, sex, nationality, marital status, education, profession, RA history in family, disease duration, working and disability); clinical questions on disease history and symptoms: current and previous treatment, surgical interventions, co-morbidity, extra-articular RA manifestations (weakness, rheumatoid nodules, Raynaud, Sjogren syndrome, dry mouth, dry eye, pericarditis, pleuritis, noncompressive neuropathy, carpal tunnel syndrome, vasculitis, amyloidosis, skin ulcer); different measures for functional assessment: patient's pain visual analogy scale (VAS-scale 1–10 cm), physician's global assessment of disease activity (1–5), patient's global assessment of disease activity (scale 1–10 cm); physical measures: walk time, grip strength, morning stiffness, 28 tender and swollen joint count (28 TJC, 28 SJC); most recent laboratory findings for RF, ESR, WBC, Hb. For analysis, the study patients were divided into three groups according to age. The first two groups involved people of employable age (the first group under the age of 44, the second group from 45 to 64); the third group was over 65. The questionnaire was filled in and data were entered into the SPSS version 6.0 data file and statistical analysis was performed using the ANOVA for continuous variable and the chi square method for proportions. The differences were considered significant when the p level was lower than 0.05.

RESULTS

The study embraced 186 patients with early RA. The demographic data in comparison with the data on the population of Lithuania are shown in Table 1. The mean age was 54.7 (SD, 14.3) years. 142 females and 44 males of the mean age 54.7 (SD, 14.3) years were enrolled in the study. Out of 186 patients, 115 (61.8%) were Lithuanians, 35 (18.8%) were Russians, and 36 (19.4%) were of other nationalities. Before being diagnosed with RA, the patients had experienced the disease symptoms on average for 10.1 (SD 10.7) months. The first rheuma-

Table 1. **Demographic characteristics of the patients. Mean, (SD) and [range] for continuous variables, numbers (%) for dichotomous variables**

Characteristics	Total N = 186 (100%)	Men N = 44 (23.6%)	Women N = 142 (76.3%)	Lithuanian population data
				Men 47.2% Women 52.8%
Age, years	54.72 (14.26) [22–84]	55.89 (13.17) [32–79]	54.36 (14.60) [22–84]	Men 66.5 Women 76.7
Lithuanian nationality	115 (61.8%)	23 (52.3%)	92 (64.8%)	82.0%
Russians	35 (18.8%)	7 (15.9%)	28 (19.7%)	8%
Other nationalities	36 (19.4%)	14 (31.8%)	22 (15.5%)	10%
Disease duration, months	25.11 (14.1) [2–48]	20.39 (13.7) [2–46]	26 (14.0) [3–48]	
Education, years	11.8 (4.17) [0–22]	10.32 (3.19) [0–18]	12.25 (4.15) [1–22]	
University education	29 (15.6%)	3 (6.8%)	26 (18.3%)	13.2%
Primary education	37 (19.9%)	10 (22.8%)	27 (19.1%)	19.4%
Without education	1 (0.5%)	1 (2.3%)	0 (%)	0.7%
Employed at the time of diagnosis	100 (53.8%)	23 (52.2%)	77 (54.2%)	58.8%
Employed at the time of interview	79 (42.5%)	17 (38.6%)	62 (43.66%)	
Owner	3 (1.6%)	1 (2.2%)	2 (1.4%)	2.6%

P value >0.05 for all variables.

tologist's consultation took place on average 10.1 months after the first symptoms appeared. At the moment of interview disease duration was 25.1 (SD 14.1) months. 53.8% of responders were employed at the time of diagnosis, but only 42.6% were holding their working place at the time of interview. 1.6% of responders were owners of their own enterprises. Problems at work due to RA were noted by 37 (19.8%) patients (Table 2). After grouping patients according to age, we found that only education and employment situation differed in the first two groups *versus* the third group (p value <0.05). There were no significant differences between the groups in clinical evaluation (Table 3). Extremely high disease activity scores (DAS-28) were noted in all groups: DAS-28 was 7.9 (SD 1.7), pain VAS-5.6

Table 2. **Social characteristics of the patients in three age groups. Mean, (SD) and [range] for continuous variables, numbers (%) for dichotomous variables**

Characteristics	Total	Age groups		
	N = 186 (100%)	<44 years N = 46 (24.7%)	44–64 years N =88 (47.3%)	>64 years N = 52 (28.0%)
Education, years	11.8 (4.17) [0–22]	12.93 (2.98) [7–22]	12.86 (3.21) [7–21]	8.98 (5.1) [0–18]
Employed at the time of diagnosis	100 (53.8%)	36 (78.27%)	58 (65.9%)	6 (11.5%)
Employed currently	79 (42.5%)	32 (69.5%)	44 (50%)	3 (5.7%)
Problems in the work due to RA	37 (19.8%)	11 (23.9%)	24 (27.2%)	2 (3.8%)*

P < 0.05, in post hoc analysis between the first two and the third groups.

Table 3. **Clinical characteristics in age groups. Mean, (SD) and [range] for continuous variables, numbers (%) for dichotomous variables**

Clinical characteristics	Total	Age groups		
	N = 186 (100%)	<44 years N = 46 (24.7%)	44–64 years N = 88 (47.3%)	>64 years N = 52 (28.0%)
Disease duration, months	25.11 (14.1) [2–48]	24.46 (14.83) [3–48]	27.66 (14.72) [2–48]	23.9 (16.16) [2–48]
Duration in month from first four symptoms of RA to diagnosis	10.05 (10.65) [1–48]	11.7 (11.84) [1–46]	9.71 (10.43) [1–48]	8.07 (9.62) [1–45]
Pain VAS (1–10)	5.6 (2.2)	5.4 (2.1)	5.9 (2.1)	5.7 (2.4)
Patient's global (1–10)	5.36 (2.12)	5.09 (2.0)	5.49 (2.08)	5.37 (2.3)
Physician's global (1–5)	3.03 (0.83)	2.95 (0.7)	3.04 (0.9)	3.08 (0.83)
28 SJC	8.73 (7.63)	10.9 (7.08)	8.36 (7.39)	8.10 (8.46)
28 TJC	12.54 (9.38)	13.74 (88.97)	12.89 (9.42)	10.84 (9.62)
Grip strength (right hand)	89.47 (40.1)	96.40 (39.91)	87.72 (337.45)	86.66 (43.96)
DAS–28	7.87 (1.7)	7.82 (1.56)	8.02 (1.69)	7.69 (2.1)
RA comorbidity	11.32 (1.78)	–	–	–
Hb	120.9 (15.02)	121.83 (16.51)	118.66 (13.79)	120.4 (15.58)
WBC	8.0 (2.3)	7.67 (2.4)	8.1 (2.3)	8.4 (2.1)
ESR	43.31 (24.04)	41.4 (27.2)	43.4 (20.3)	44.91 (26.4)
DMARD	161 (86.6%)	46 100%)	75 (85.2%)	40 (76.9%)
Peroral glucocorticoids	151 (81.0%)	36 (78.2%)	73 (82.9%)	42 (80.76%)
Intraarticular injections	52 (28.0%)	8 (17%)	33 (37.5%)	11 (21.2%)
Surgery	6 (3.2%)	1 (2.1%)	3 (3.4%)	2 (3.8%)

P value >0.05 for all varaibles.

was (SD 2.2), patient's global assessment – 5.4 (SD 2.12), physician's global assessment – 3.0 (SD 0.8), ESR – 43.3 (SD 24.0). In the younger group there were more swollen and tender joints, though the difference was not significant. At study entry 64.5% of patients demonstrated a positive serum rheumatoid factor, and the average of co-morbidities was 11.3 (SD 11.8). The majority of the patients had been or were on non-steroidal anti-inflammatory drugs. 151 (81.0%) patients were treated with corticosteroids and 134 (72%) were taking them constantly. Intra-articular steroid injections (mostly into the knee joints) had had 52 (28.0%) responders. At the time of survey 161 (86.6%) patients were taking different DMARDs. The most popular DMARD was methotrexate; it was prescribed to 30% of patients; sulfasalazin was the second by frequency taken drug (26.5% of patients). DMARDs were more often prescribed to younger people.

DISCUSSION

The aim of this study was to describe the well-being of Lithuanian RA patients up to four years of their disease duration. It is the first attempt to describe this patient group in our practice. Although considered as a chronic and constantly progressing disease, early RA falls within the scope of research interest because of its relatively manageable disease course. Moreover, data from Western countries are well described, but the impact of disease might be different depending on social and health care services and economical background. Direct application of the results retrieved from other countries could be misleading. The demographic characteristics of our patients seem to be comparable to the results referred by others regarding age, gender and education (4, 5). Not unexpectedly, women prevailed in the whole cohort of the patients, because RA is dominating in the female population. Moreover, we found a higher incidence of RA in the middle age and a lower incidence in younger age. This seems to correlate with the data from Norway, Oslo study, where a higher incidence of RA was noted in a cohort aged 60 to 80 (11). It is important to note that Lithuanian early RA patients meet more problems in social respect, since the employment data coming from other studies are more favorable than those shown by our study. In the ERAS study (England), 48% of patients were in paid employment when interviewed, *versus* 42.5% for our patients (6). It could not be concluded from this study whether it depends on disease severity or less favorable social and economical background. Also, problems at working place seem to occur to at least 20% of our patients. Our patients have a very severe disease course, if measured by DAS, from the very onset of the disease. The difference in disease activity between our patients and the patients from Norway is striking. In a recent study by Dadonienė et al., disease activity in Lithuanian RA patients was twofold higher than in Norwegian patients, and the current study seems to support the finding that the severity of the disease in Lithuanian patients is extremely high (2, 12). Notably, the first consultation of the rheumatologist for RA diagnosis confirmation seems to take place a bit later that in other Western countries, but the approach and the manner of treatment of this condition is the same regardless of the country. The occurrence and prevalence of clinical symptoms do not differ among the age groups, although the treatment applied was less aggressive in the group of the most advanced age. Our study had a few limitations, and the higher disease activity could be partially explained by the design of the study. More active disease is seen in hospital practice than in out-patient practice. The second reason is that our patients are diagnosed with RA rather late and the delayed diagnosis might be working negatively on the health status. Data from other countries show a shorter time of diagnosis. In the ERAS study, on average 8.1 months are needed to confirm early RA, *versus* 10.1 months in our country (6, 7).

Conclusions. Lithuanian patients with early RA seem to experience a higher disease burden if compared to the patients from similar studies in Western countries. The major differences are observed in employment rate and disease activity scores. If compared to the whole Lithuanian population, the differences in employment rate and demographical data are not important. Analysis according to the age groups revealed comparable clinical symptoms in all three groups regardless the time of onset. The treatment prescribed within the groups differed, being more aggressive for younger than for older people.

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ANKSTYVAS REUMATOIDINIS ARTRITAS: 186 LIETUVOS LIGONIŲ PJŪVINĖ ANALIZĖ

S a n t r a u k a

Tikslas: išanalizuoti Lietuvos ligonių, sergančių ankstyvuoju reumatoidiniu artritu (RA), sociodemografinę ir klinikinę būklę atlikus ligonių apklausos pjūvinę analizę. Palyginti šios studijos duomenis su kitų panašių studijų rezultatais.

Ligoniai ir **metodai:** Nuo 1999 m. pabaigos iki 2003 m. pradžios buvo apklausti ligoniai, sergantys reumatoidiniu artritu. Pacientai buvo įtraukti į tyrimą, jei atitiko klasifikacinius ACR'87 RA kriterijus ir apklausos metu jų ligos trukmė nebuvo ilgesnė nei ketveri metai. Ligonis buvo apklausiamas pagal klausimyną, kurį sudarė sociodemografiniai ir klinikiniai klausimai. Duomenų analizei visi pacientai buvo suskirstyti į 3 grupes pagal amžių: pirmas dvi grupes sudarė darbingo amžiaus pacientai, trečiąją – pensinio amžiaus žmonės (vyresni nei 64-erių).

Rezultatai: Dalyvauti tyrime buvo pakviesti 186 ligoniai, sergantys ankstyvuoju RA. Keturis diagnostinius RA simptomus iš septynių ligoniai jautė vidutiniškai apie 10,1 (SD 10,7) mėnesio iki nustatant diagnozę. Apklausos metu nustatyta vidutinė ligos trukmė 25,1 (SD 14,1) mėnesio.Vidutinis ligonių amžius buvo 54,7 (SD 14,3) metai. Buvo apklaustos 142 moterys ir 44 vyrai. Iš 186 pacientų 115 (61,8%) buvo lietuvių, 35 (18,8%) rusai ir 36 (19,4%) kitos tautybės žmonės. 8% apklaustųjų ligos diagnozavimo metu turėjo darbą, tačiau apklausos metu darbą turėjo tik 45,5%. 1,6% pacientų yra įmonių savininkai. Apie tai, kad diagnozavus RA atsirado įvairaus pobūdžio problemų darbe, pažymėjo 37 (19,8%) pacientai. Tarp išsilavinimo ir darbinės situacijos rodiklių yra patikimas skirtumas ($p < 0,05$), vertinant pirmas dvi grupes ir trečiąją. Klinikiniai duomenys patvirtina didelį ligos aktyvumą visose trijose ligos grupėse. Praktiškai visi pacientai gydosi ar buvo gydyti nesteroidiniais vaistais nuo uždegimo. 151 (81,0%) ligonis buvo gydytas steroidais, nuolat juos vartoja 134 (72%) ligoniai. 52 (28%) apklaustųjų pažymi, kad jiems buvo skirtos įsąnarinės (dažniausiai kelio sąnario) steroidų injekcijos. Ligą modifikuojantys vaistai buvo skirti 161 (86,6%) ligoniui, dažniausiai skiriamas metotreksatas – 57 (30%), antras pagal dažnumą sulfasalazinas – 28 (26,5%). Dažniau bazinė intensyvesnė terapija skiriama jaunesniems ligoniams.

Išvados: Lietuvos ligonių, sergančių ankstyvuoju reumatoidiniu artritu, ligos aktyvumas yra didesnis nei Vakarų šalyse. Pastebėti didesni skirtumai tarp darbinio užimtumo rodiklių ir klinikinių simptomų. Įvertinus trijų amžiaus grupių ligonių būklę, klinikiniai simptomai yra panašūs. Minėtose grupėse skiriasi bazinės terapijos agresyvumas. Jaunesniems žmonėms skiriama agresyvesnė bazinė terapija nei vyresnio amžiaus.

Raktažodžiai: ankstyvas reumatoidinis artritas, gydymas, pjūvinė analizė