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Letter to the Editor

Rheumatoid arthritis in French Guiana: Epidemiology and characteristics



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Rheumatoid arthritis is considered the most frequent inflammatory adult rheumatism, with an estimated global prevalence of 0.24% [1]. French Guiana, a 91,000-km² French Overseas Department, is located in northeastern South America in the Amazon forest. The 252,338 inhabitants (2014 census) are predominantly young (median 23 years) and mostly of African descent, with a minority of other ethnic groups [2]. The region has an alarmingly high poverty rate, availability and access to health care are insufficient (22 medical specialists for 100,000 inhabitants versus 87/100,000 in continental France) [3]. There is no rheumatologist or internist in Guiana.

Epidemiological characteristics of RA in French Guiana have never been reported. Our objectives were to describe RA characteristics and frequency. All 301 general practitioners, 19 healthcare centers, and Kourou and Saint-Laurent Hospitals were asked to address their RA patients (> 18 years old) to the Cayenne's Hospital for a specialist evaluation.

Among the 160 patients initially screened, 5 refused to participate in the descriptive study, 3 were given other diagnoses and 32 had no rheumatic disease, leaving 125 patients for analysis. For each patient, socioeconomic, demographic, clinical and radiographic data, as well as cardiovascular risk factors, laboratory findings and treatments were collected. Descriptive statistical analyses were computed with EPI INFO 2.5.4 software, prevalence

Table 1
 Epidemiologic characteristics of RA patients in French Guiana, n = 120.

Characteristics	Value
Sexe %	
Women	89
Men	11
Age at diagnosis, years, mean + SD	
Total	47.0 + 13.5
Women	47.1 + 13.2
Men	46.5 + 16.3
Age at inclusion, years, mean + SD	
Total	54.9 + 11.8
Women	54.8 + 11.6
Men	55.7 + 13.5
Disease duration, years	
Total	7.9 + 9
Women	7.7 + 9.1
Men	9.2 + 8.8
Professional status, %	
Active	43.7
Disabled	6.7
Retired	23.5
Unemployed	26.1
DAS Score, % at time of visit	
< 2.6	57.4
> 2.6– < 3.2	21.7
> 3.2– < 5.1	17.4
> 5.1	3.5
Serology, %	
ACPA positive	78.3
RF positive	73.3
ACPA positive and RF negative	7.5
ACPA negative and RF positive	6.7
ACPA negative and RF negative	15
High titers > 10 time normal value	78.3
CRP, % at time of visit	
< 5 mg/L	53.5
> 5 mg/L	46.5
Treatment, % at time of visit	
Steroids	53.8
DMARDS (MTX / LEF)	71.7/12.5
Biologics	18.3

Table 2
 Rheumatoid arthritis frequencies in French Guiana according to sex and age: the EPPRA cohort December 2012 to December 2014, n = 125.

Age group (years)	Women		Men		Total	
	No.	% [95 CI]	No.	% [95 CI]	No.	% [95 CI]
20–29	4	0.022 [0.020–0.024]	0	0.000	4	0.011 [0.010–0.012]
30–39	7	0.038 [0.035–0.041]	2	0.011 [0.010–0.013]	9	0.025 [0.023–0.027]
40–49	24	0.154 [0.148–0.160]	2	0.013 [0.011–0.015]	26	0.084 [0.081–0.087]
50–59	37	0.343 [0.332–0.354]	5	0.046 [0.042–0.050]	42	0.193 [0.188–0.199]
60–69	30	0.522 [0.504–0.541]	4	0.066 [0.060–0.073]	34	0.287 [0.278–0.297]
≥ 70	9	0.224 [0.210–0.239]	1	0.033 [0.027–0.040]	10	0.142 [0.133–0.151]
Observed total	111	0.152 [0.149–0.155]	14	0.020 [0.019–0.021]	125	0.087 [0.086–0.089]
Standardized ^a		0.122 [0.099–0.145]		0.015 [0.007–0.024]		0.069 [0.056–0.081]

^a World-standardized prevalence.

calculations used SAS software 9.4. The study was approved by the local medical ethics committee.

A clear female predominance (89%) was observed (Table 1). Self declared origins were: 65% Afro-Caribbean, 15% Brazilian, 6.6% Amerindians, 13.4% other origin. Fifteen percent of the patients had another associated autoimmune disease, mostly Gougerot–Sjögren (10%), Biermer's disease in 3, autoimmune thyroiditis in 2 patients. At least 1 cardiovascular risk factor was found in 93% of the patients. Notably, 60% of patients were overweight/obese, 39.2% were hypertensive, 19.2% had family histories of cardiovascular disease, 14.2% were hypercholesterolemic, 12.5% had diabetes and 12.5% were smokers. Frequencies as a function of age group were calculated for all patients as well as men and women respectively (Table 2). RA frequency in French Guiana is low (0.087%), much lower as in mainland France [4].

Our main methodological limitations are the lack of exhaustivity that we tried to contain by optimizing recruitment and a long study observation period. Nevertheless, the sparse medical network throughout French Guiana and its geographical vastness most likely contributed to under diagnosis, notably for seronegative RA patients. The low crude RA frequency observed is linked, in part, to youthfulness of the population (16% over 50, as opposed to 35% in France), it is also possibly linked to low smoking habit and African ancestry. But, the high frequency of high-titer ACPA, as observed in Martinique [5] suggests the presence of other environmental factors inducing ACPA synthesis and playing a role in RA pathogenesis. Other inhaled pollutants, like wood-smoked foods and domestic cooking on wood fires, also potentially require investigation [6–9].

The results of this first estimation of RA frequency in French Guiana could be useful to public health authorities for evaluating healthcare needs and RA-management accessibility.

Author contributions

Dr Blettery had full access to all of the data in the study and, takes responsibility for the integrity of the data and the accuracy of the data analysis. All authors were involved in drafting the article or revising it critically for important intellectual content, and all authors approved the final version to be published.

Study conception and design

Blettery, De Bandt.

Data acquisition

Blettery, Forgues.

Analysis and interpretation of data

Banydeen, Derancourt, De Bandt.

Disclosure of interest

The authors declare that they have no competing interest.

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