Clin Rheumatol (2009) 28:1375–1377
DOI 10.1007/s10067-009-1250-8

ORIGINAL ARTICLE

Ankylosing spondylitis in rheumatology patients in Ouagadougou (Burkina Faso)

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Received: 12 June 2009 / Revised: 29 July 2009 / Accepted: 2 August 2009 / Published online: 2 September 2009

Abstract The aim of this work was to study ankylosing spondylitis (AS) prevalence and its clinical, radiological and genetic features in Ouagadougou. This was a cross-sectional study over two first years of rheumatologic practice (March 2006 to March 2008). All the patients having AS met the modified criteria of New York. HIV serology was negative. Thirteen cases of AS (0.9%) with 11 men were diagnosed among 1,439 rheumatologic patients. The average age of the patients at the beginning of the disease was 27.1±11.5 years. Bath Ankylosing Spondylitis Disease Activity Index and Bath Ankylosing Spondylitis Functional Index mean scores were, respectively, 47.8/100 and 44.46/100. No patient had presented extra-articular manifestations. Four (31%) patients had hip joint involvement. HLA B 27, among 11 patients, was positive in six (55%). Semiological features of AS among patients seen in Ouagadougou were similar to those of white race. HLA B27 prevalence in AS patients of Burkina Faso was similar to those of Afro-Americans.

This work was presented in the form of poster in 21st congress of the French society of Rheumatology from 14 to 17 December 2008 Paris, France.

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Keywords Ankylosing spondylitis · Antigen HLA B27 · Burkina Faso · Sub-Saharan Africa

Introduction

Ankylosing spondylitis (AS) is considered to be rare in sub-Saharan Africa [1]. Only about 40 cases were reported in this part of the continent. Mijiyawa [2] reported the greatest series: 13 cases recruited in 3 years among 2,626 rheumatologic patients (0.5%). This AS scarcity would be associated to HLA B 27 absence in Black Africans. Few studies, however, were done about genetic features in patients; the one carried out on eight Togolese patients with AS rather showed a connection with HLA B14 [3]. The aim of this work was to study AS prevalence and its clinical, radiological and genetic features in rheumatology patients in Ouagadougou.

Patients and methods

This was a cross-sectional study conducted in the department of internal medicine of the university hospital Yalgado Ouedraogo of Ouagadougou (Burkina Faso, Africa) on two first years of rheumatologic practice, from March 2006 to March 2008. All the patients who went under a rheumatologic consultation in the town during the study period were included; all had a complete clinical examination by the same rheumatologist (D-D O.). Uveitis, enterocolopathy and psoriasis lesion researches were systematic. Blood numeration, erythrocyte sedimentation rate and protein C reactivity were also systematic in all patients. Cervical spinal column, dorsolumbar, lumbar, pelvis and foot radiography were realised to all patients with axial pain or talalgy. Patients

with AS as defined by the New York modified criteria were retained [4]; patients with other types of spondylarthropathy (reactive arthritis, arthritis associated to HIV, psoriasic arthritis or undetermined spondylarthropathies) were excluded. All AS patients were HIV negative. Cardiac echography was not done. HLA B27 research was realised by microlymphocytotoxicity or molecular biology.

Results

Thirteen cases of AS (0.9%) were diagnosed among 1,439 patients with rheumatic disease examined throughout the study. Eleven of the 13 cases of AS (84.6%) were male with sex ratio of 5.5. Seven patients (53.9%) had symptoms of the disease for 10 years. The cervical spinal column was the most painful segment of the spine (11cases, 84.6%), the dorsolumbar area (11 cases, 84.6%); nine (69.2%) patients had plantar talalgies. Pain was important (visual analog scale >60) among seven patients (53.8%). The mean distance C7-wall was 9.5±6.6 cm with extremes of 5 and 28 cm. The mean distance between the nape and the wall was 4.7±9.7 cm with extremes of 0 and 32; five patients (38.5%) had nape–wall distance higher than 0. Seven (53.8%) had significant lumbar stiffness with Schöber index of 10+1. Patients had no extra-articular manifestations (uveitis, enterocolopathy, psoriasic lesions). All patients had radiographic sacroiliitis. Hip joint involvement was found in four patients (31%) at standard radiography. Syndesmophytes were present among eight patients (61.5%); five patients (62.5%) had concomitant cervical rachis and dorsolumbar attacks. The research of HLA B27 among 11 was positive in 6 (55%). Table 1 shows the features of the 13 cases of AS diagnosed in Ouagadougou.

Discussion

We observed 13 cases of AS in 2 years of rheumatologic practice among 1,439 patients (0.9%). The average age at the beginning of the disease (27 years) was higher than that of the series of (23 years) Mijiyawa [2]; Ntsiba and Bazebissa [5] recently reported, an average age of 42 years, in four cases of AS. Eleven of the 13 AS (84.6%) were male; Mijiyawa [2] and Ntsiba and Bazebissa [5] reported only male patients in their studies. The disease activity and its functional effects were not studied in the African series; they were important in our series (mean Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI), respectively, of 47.8/100 and 44.46/100) and confirmed cervical and lumbar stiffness. This severity seems characteristic of the AS of the black African patient but needs to be confirmed by other studies. The absence of uveitis, psoriasis and enterocolopathy confirms the scarcity of these manifestations [2, 5–7].

Association of HLA B27 and AS are acknowledged since 1973 [8]. The research of antigen HLA B27 realised among 11 patients was positive in six (55%); few studies were interested in HLA B27 in the black African series

Table 1 Ankylosing spondylitis features in Ouagadougou university hospital

Case	Age (years)	Sex	Duration (years)	Sacroiliitis	Hip joint involvement	Syndesmophyte	BASDAI	BASFI	HLA B27
1	26	M	10	Bilateral stage III	No	No	63.5	76	Positive
2	59	M	6	Bilateral stage II	No	Yes	58	60	Negative
3	67	M	30	Unilateral stage III	No	Yes	20	5	Positive
4	27	M	6	Unilateral stage III	Yes	Yes	57	68	Negative
5	37	F	15	Bilateral stage II	No	No	64	17	Positive
6	39	M	1	Bilateral stage II	Yes	No	31	10	Negative
7	24	M	2	Unilateral stage III	No	Yes	45	60	NR
8	19	M	2	Bilateral stage III	Yes	No	59	58	Positive
9	51	M	25	Unilateral stage III	No	Yes	38	35	Positive
10	27	M	4	Bilateral stage IV	Yes	Yes	41	68	Positive
11	53	F	10	Bilateral stage IV	No	Yes	47	65	Negative
12	31	M	11	Bilateral stage II	No	No	63	43	NR
13	24	M	7	Bilateral stage II	No	No	3.6	2.2	Negative

NR Non-realised

[3, 6, 9]; none of the seven patients examined by Stein et al. [9] had this antigen which was present only in one patient of Chalmers et al. [6]. In eight examined by Lopez-Larrea et al. [3] in Togo, AS was associated to B14 antigen; HLA B27 antigen was found in one patient. The prevalence of HLA B27 among our AS was the same as black Americans' AS [10, 11].

The HLA B27 studies in population are fragmentary in Black Africa; HLA B27 is present in 2% to 3% of the western Africa population [12, 13]; however, in a study carried out among 82 inhabitants of Mali, HLA B27 prevalence was 9.7% [14]; this prevalence was 2.6% in a study concerning 700 people in Gambia [13] and 3% in Senegal on 100 persons surveyed [12]; no similar study was carried out in Burkina Faso (formerly Upper Volta) which is a neighbouring country of Mali. B*2705 and B*2703 are most frequent sub-types found in this part of the world [12], with respective frequencies of 55% and 45%; there was no AS in Gambia despite the fact that B*2705 and B*2703 are most frequent sub-types found and since there is still some controversy about possible disease association of B*2703 [15]. HLA B27 sub-types were not studied in our series. It is necessary for us to determine sub-types of HLA-B27 in the patients who are B27 positive and antigen associated to B27 negative patients.

Conclusion

Semiological features of AS in Burkina Faso are similar to those of Caucasians; however, the disease seems more severe among patients seen in Burkina Faso; HLA B27 frequency was the most significant of sub-Saharan series. Sub-types should be specified by further studies.

Disclosures None.

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