

Clinical spectrum of rheumatologic diseases in a department of rheumatology in Ouagadougou (Burkina Faso)

Dieu-Donné Ouédraogo · Honoré Ntsiba ·
Joelle Tiendrébéogo/Zabsonré · Hervé Tiéno ·
Laurelle I. F. Bokossa · Fulgence Kaboré · Joseph Drabo

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Abstract The aim of this study is to review over a period of 5 years the clinical spectrum of rheumatic diseases seen in a tertiary hospital in Ouagadougou, Burkina Faso. A retrospective study of case records was conducted from March 1, 2006 to March 30, 2011 in the Rheumatology service, Department of Internal Medicine of the University Hospital Yalgado Ouedraogo. Of the 4,084 patients seen, 2,381 were women (58.30 %) and 1,703 were men (41.70 %). The mean age at disease onset was 42.12 years, ranging from 3 to 92 years. Among the rheumatologic conditions, mechanical and degenerative disorders were the most common, found in 3,053 cases (74.76 %). Among these cases, spinal pathology predominated, especially low back pain (19.93 %). The frequency of osteoarthritis was 19.70 % (804 cases) with a predominance of knee osteoarthritis (657 cases). Infectious pathology was dominated by osteoarticular tuberculosis (48 cases), particularly Pott's disease (43.68 % of infectious diseases). Among the cases of inflammatory arthritides, rheumatoid arthritis was the leading cause (116 cases or 2.84 %). It was followed by spondyloarthropathies in which arthritis related to HIV predominated (21 out of 81 cases). Metabolic diseases were mainly represented by the gout (162 cases or 3.96 %) with male predominance. Comorbidities included high blood pressure (46.57 %), diabetes mellitus (13.78 %), hemoglobinopathies (9.66 %), epigastric pain (7.25 %), and peptic ulcer confirmed by endoscopy (6.75 %). Rheumatology in Burkina Faso is booming. The profile of rheumatologic diseases in

Burkina Faso, after 5 years of practice, confirms the diversity and importance of these conditions dominated by a degenerative pathology of the spine and limbs, including infectious diseases such as Pott's disease and the inflammatory and metabolic diseases.

Keywords Burkina Faso · Pattern · Rheumatologic diseases

Introduction

Rheumatic conditions are a public health problem in developed countries [1]. In Sub-Saharan Africa, they are not a concern due to priority areas such as infections mainly with the human immunodeficiency virus (HIV) and malaria. However, even if the first studies carried out in this part of the world have concluded for the rarity of rheumatic diseases, the work of the last 10 years have reversed that impression [2–6].

Indeed, rheumatoid arthritis (RA) appears frequently in sub-Saharan Africa according to a recent study in the Democratic Republic of Congo [7]. The prevalence of systemic lupus erythematosus is not known but the disease appears to be more severe in sub-Saharan Africa [8]. Spondyloarthropathies seem to be dominated by arthritis associated with HIV infection [9].

In Burkina Faso, rheumatology is a recent specialty. The first consultation is dated March 2006. A first study carried out after 2 years of practice had allowed us to assess the spectrum of rheumatic diseases in the country [10]. Five years later, we found it necessary to study the clinical spectrum of rheumatologic diseases in a rheumatologic department and compare them to other African and Caucasian studies.

D.-D. Ouédraogo (✉) · J. Tiendrébéogo/Zabsonré · H. Tiéno ·
L. I. F. Bokossa · F. Kaboré · J. Drabo
Department of Internal Medicine, University Hospital Yalgado
Ouedraogo, 09 BP 628 Ouagadougou, Burkina Faso
e-mail: ouedd@yahoo.fr

H. Ntsiba
Department of Rheumatology, University Hospital of Brazzaville,
Brazzaville, Congo

Patients and methods

This was a retrospective study of case records conducted from March 2006 to March 2011 in the Department of Internal Medicine, at the University Hospital Yalgado Ouedraogo in Ouagadougou, capital of Burkina Faso. Burkina Faso is a landlocked Sahelian country located in West Africa. Its population was estimated at 14,017,282 inhabitants in 2006 [11]. Ouagadougou (1,475,223 inhabitants), its capital, is the only city in the country with a rheumatology service.

All patients who have had a rheumatology consultation were included, and these patients were examined by the same rheumatologist (O D-D) and have been submitted to a form of data collection with sociodemographic variables (age, sex), disease history, duration of disease progression, the clinical and para-clinical semiology, and the concluded diagnosis.

The diagnosis of the mechanical and degenerative pathologies was radio-clinical, that of the infectious was clinic-biological. All the patients with rheumatoid arthritis, systemic lupus erythematosus, and scleroderma met the ACR criteria [12–14]. Spondyloarthropathies met Amor criteria [15] and rheumatic fever, Duckett Jones criteria [16]. Polymyalgia rheumatica and juvenile idiopathic arthritis fulfilled the appropriate criteria [17, 18]. The diagnosis of tuberculosis osteoarticular was based on presumption argument (night fever, asthenia, weight loss, cold abscess, tuberculin skin test, sensitivity to anti-tuberculosis drug). Gout and fibromyalgia fulfilled the appropriate criteria [19, 20].

Blood count, erythrocyte sedimentation rate, C reactive protein, transaminases, and creatinine were performed in all patients. Anti-citrullinated peptide antibodies, antinuclear, DNA antibodies, and ECT antibodies were made for suspected RA or connective tissue disease. Radiographs of affected joints were made for all patients. Bone densitometry was not performed in all patients. Magnetic resonance imaging was inaccessible. Joint aspiration with cytobacteriological examination and search of microcrystals of joint fluid was performed in all patients with intra-articular effusion. All data were collected on a survey form and processed by Epi Info. Chi-square, Fisher, and Kruskal–Wallis tests were used. Any difference associated with a probability value (*p*) less than 0.05 was considered statistically significant.

Results

Four thousand one hundred thirty-four patients were recruited during the study period. Four thousand eighty-four had a rheumatic disease. There were 2,381 female patients (58.3 %) and 1,703 male (41.7 %), with male to female ratio of 0.72. The mean age at disease onset was 42.12 years (range 3–92 years). Figure 1 shows the distribution of patients by age

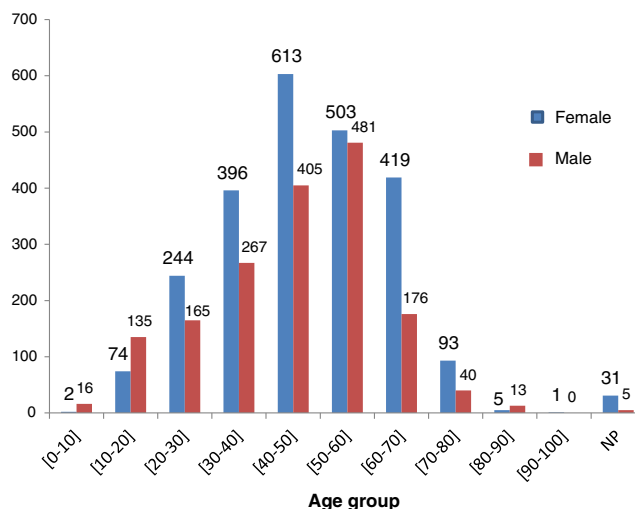


Fig. 1 Distribution of patients by age and sex

and sex. The mean duration between disease onset and diagnosis was 49±7.6 months.

Fifty patients with chest pain associated with gastroduodenal ulcer, hiatal hernia, or heart disease were excluded. Three thousand fifty-three patients (74.76 %) had a mechanical or degenerative disease. Table 1 shows the distribution of patients according to the different disease groups. Among them, the common spine disorders occurred in 1,417 patients (34.71 %). Table 2 shows the distribution of patients according to the mechanical etiologies. Infectious pathology was dominated by osteoarticular tuberculosis (48 cases or 1.17 % of rheumatologic affections); the mean age of patients was 42.5±18.36 years with male to female ratio of 2. Nineteen cases of septic arthritis were reported (0.46 %). Three hundred twenty-six patients (7.98 %) had inflammatory arthritides. Table 3 shows the distribution of patients according to the type of inflammatory arthritis.

Table 1 Distribution of patients according to disease entities

	Number	Percentage	Sex ratio M/F*
Mechanical and degenerative pathologies (MDP)	3,053	74.76	0.63
Inflammatory arthritis and connective tissue disease (IA/CTD)	326	7.98	0.36
Metabolic diseases	205	5.02	28.43
Infectious diseases	87	2.13	2.00
Tumoral pathologies	10	0.25	1.00
Soft tissue rheumatism	199	4.87	1.12
Undetermined rheumatism	203	4.98	0.64
TOTAL	4,084	100.00	0.72

*M/F: male/female

Table 2 Major mechanical and degenerative diseases

	Number	Percentage	Mean age (years)	Standard deviation	Sex ratio M/F
Low back pain	814	19.93	45.45	15.25	0.68
Knee osteoarthritis	657	16.09	53.15	11.94	0.34
Tendinitis of shoulder	379	9.28	54.00	11.36	0.88
Sciatica	197	4.82	49.70	12.85	0.98
Neck pain	134	3.28	47.21	12.34	1.39
Tenosynovitis	128	3.13	44.00	12.67	0.33
Dorsal back pain	118	2.90	40.14	18.00	1.11
Polyarthrosis	73	1.80	63.12	9.44	0.07
OSD ^a	60	1.47	14.53	3.81	29.00
Plantar fasciitis	58	1.42	36.61	10.65	1.26
FHAON ^b	52	1.27	52.00	9.14	0.57
Hip osteoarthritis	32	0.78	56.37	14.19	1.91
Capsulitis of shoulder	29	0.71	56.00	4.16	0.61
Sever's disease	15	0.37	10.20	2.78	15.00

^a OSD Osgood–Schlatter disease

^b FHAON femoral head aseptic osteonecrosis

One hundred sixty-two patients (3.97 %) had gout, and their mean age was 49.9±7.02 years with male to female ratio of 31.4. Four cases of chondrocalcinosis (mean age 67.7 years) and 38 had asymptomatic hyperuricemia. Tumor pathology consisted of eight cases of multiple myeloma (mean age 52.5 years) and two cases of bone metastases. Soft tissue rheumatism was dominated by fibromyalgia (103 cases or 2.52 %); the mean age of the patients was 43.02 years with male to female

ratio of 0.69; 40 cases of algodystrophy were observed. Two hundred three patients (4.97 %) had undetermined rheumatism. The mean age of the patients was 32.45 years with male to female ratio of 0.63.

One thousand eight hundred twenty-one patients had comorbidities. High blood pressure was observed in 848 patients (20.76 %). Table 4 shows the distribution of patients with comorbid conditions according to the type of rheumatic disease.

Table 3 Distribution of patients according to inflammatory arthritis and connective tissue disease

	Number	Percentage	Mean age (years)	Standard deviation	Sex ratio M/F
Rheumatoid arthritis	116	2.84	41.48	11.88	0.16
Spondyloarthropathy	81	1.98	40.21	11.40	1.61
Ankylosing spondylitis	21	0.51	30.95	14.41	2.50
Arthritis related to HIV	37	0.91	51.11	10.43	2.36
Reactive arthritis	07	0.17	31.14	8.95	0.40
Coxitis	02	0.05	69.00	0.00	0/12
Psoriatic arthritis	01	0.02	38.00	0.00	0/1
Undifferentiated spondyloarthropathy	13	0.32	24.75	7.05	1.00
Connective	50	1.22	38.20	11.24	0.06
Systemic lupus erythematosus	24	0.60	41.08	9.17	0/24
Undifferentiated connective	17	0.42	36.47	5.32	0/17
Sjögren's syndrome	03	0.07	30.66	8.02	0/3
Scleroderma	03	0.07	38.00	13.11	0.50
Polymyositis	03	0.07	32.66	15.04	2.00
Rheumatic fever	39	0.95	18.23	4.02	0.05
Polymyalgia rheumatica	20	0.50	67.52	5.06	0.11
STILL disease	06	0.15	10.33	5.75	0.50
Juvenile Idiopathic arthritis	14	0.34	32.00	0.00	14/0
TOTAL	326	7.98	38.50	10.58	0.36

Table 4 Distribution of patients with comorbid conditions according to the type of rheumatic disease

	Number (%)	Rheumatic disease associated (% ^a)
High blood pressure	848 (46.57)	MDP ^b (78.53)
Diabetes mellitus	231 (12.69)	–
Type 1	31 (1.70)	–
Type 2	200 (10.98)	MDP (71.00)
Hemoglobinopathy	176 (9.67)	MDP (61.36)
Dyspepsia	132 (7.25)	–
Peptic ulcer	123 (6.25)	–
Trauma	108 (5.93)	–
Heart disorder	70 (3.84)	–
HIV ^c	55 (3.02)	–
Tumors	39 (2.14)	–
Cerebrovascular accident	25 (1.37)	–
Gout	12 (0.66)	–
Pulmonary embolism	11 (0.60)	–
Renal failure	02 (0.11)	–
TOTAL	1821(100)	

^a Percentage of patients who have this comorbid conditions with significant difference

^b MDP mechanical and degenerative pathologies

^c HIV human immunodeficiency virus

Discussion

Four thousand eighty-four patients were seen in consultation of rheumatology in 5 years. The annual average was 816.8 new patients. Any interpretation of our results must take into account the inherent bias in patient recruitment. Rheumatology consultation is not the only possible consultation of patients with rheumatologic diseases. Some patients have been cared for in orthopedics, traumatology, neurology, or neurosurgery department. An earlier study on the first 2 years of rheumatology practice showed an annual frequency of 719.5 patients per year [10]. This increase in rate is probably due to a better knowledge of the specialty by the populations. Our series included a female predominance (58.3 %). This could be caused by a bias in relation with the structure of the population [11]. However, this frequency is the same with other African countries and reflects the predisposition of women for most rheumatic diseases [3, 21]. The average age of patients at disease onset was 42.12 years; it is the most active age group of the population. Therefore, the functional impact of the disease has major economic consequences for the patient and the country. Mechanical and degenerative disease appears to be the most common rheumatic complaints in Africa [2, 3, 6, 21, 22]. It was dominated by degenerative spine disease. Knee osteoarthritis seems to be the primary site

of osteoarthritis in the lower limbs [5]. In our study and in accordance with other African studies, hip osteoarthritis seems to be rare, especially in its primary form. Oniankitan et al. in Togo, however, have reported 46.1 % of primary forms among a series of 89 cases. If the high frequency of knee osteoarthritis seems to be due to genetic factors and obesity, the scarcity of primary hip osteoarthritis could be related to the low incidence of hip dysplasia [23]. The low frequency of hip osteoarthritis has also been suggested to be due to squatting position adapted by many Africans [24].

RA was the commonest chronic inflammatory arthritis (116 cases or 2.84 %), confirming the overall impression of an increase or a better diagnosis of this condition. In fact, Adelowo et al. reported in 2011, 200 cases of RA in 10 years in Nigeria with a hospital frequency of 12.3 % [25]. Recently, Malemba et al. found a RA prevalence of 0.6 %, which is close to that of some European studies [7, 26]. The production of antibodies against citrullinated peptides was associated with the presence of the shared epitope and the disease seemed severe [27, 28]. Spondyloarthropathies were dominated in our series by arthritis related to HIV in accordance with our primary impression [5, 9]. Psoriatic arthritis was rare (only one case) [5, 6, 29]. Ankylosing spondylitis is not rare but seems uncommon [30]. Its association with the antigen HLA B27 * 05 was confirmed by our previous work [31]. In contrast, the high incidence of systemic lupus erythematosus with African blacks reported in the international literature seems questionable. Indeed, its frequency was low (0.6 %) in our series in line with other African studies [32–34]. The frequency of the gout was 3.97 %, which was higher than RA prevalence. The increase of high blood pressure and obesity within the population, probably related to transition in nutrition, could be factors favoring gout [35]. One thousand eight hundred twenty-one patients had a pathological history including 848 cases (46.57 %) of high blood pressure, 132 cases (7.25 %) of epigastralgies, and 123 cases (6.75 %) of peptic ulcer causing therapeutic problems particularly with anti-inflammatory drugs in the long term. Association of high blood pressure, diabetes mellitus type 2, and hemoglobinopathies with the mechanical and degenerative disease needs to be clarified by further studies.

Our work whose objective was to study the clinical spectrum of rheumatologic diseases in a unit of Rheumatology in Burkina Faso includes limits linked to the difficulties of biological examinations with a large part of indefinite rheumatism. In addition, it is the only unit of rheumatology in the country, inaccessibility is also geographical. The insufficient knowledge on the special subject by doctors, often causing the fact that some patients cannot find their way through, and the low number of rheumatologists (only one in this study period) may be factors of undervaluation of the frequencies of different disease. These factors explain the high period between the disease onset and the diagnosis. Our results are not

superposable to the country. The high cost of population-based studies limit their realization in our context.

Conclusion

Rheumatology is booming in Burkina Faso. The profile in rheumatologic diseases in Burkina Faso, after 5 years of practice, confirms the diversity and importance of these diseases. Mechanical and degenerative disease, RA, and gout are common. Diseases such as psoriatic arthritis, post-menopausal osteoporosis, and primary hip osteoarthritis seem rare. Population-based studies are needed to confirm this impression.

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Disclosures None

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