

## Panorama of Inflammatory Arthropathies in Rheumatologic Consultation in Northern-Togo

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### Abstract

**Objectives:** To determine the frequency and epidemiological profile of inflammatory arthropathies during a rheumatologic consultation.

**Patients and methods:** It was a series of cases study carried out over four years on files of patients suffering from inflammatory arthropathy and submitted to rheumatologic consultation at Kara Teaching Hospital (Northern-Togo).

**Results:** Among the 2361 rheumatic patients, 152 (6.43%) suffered from inflammatory arthropathy. The 152 patients were made of 57.24% of men and 42.76% of women. The main etiologies observed were: chronic inflammatory rheumatism (CIR) and connective tissue disease (49.34%), infectious arthritis (26.32%), and gout (24.34%). The median age of the 75 patients with CIR at the onset of the disease was 40 years. The main clinical forms of CIR were rheumatoid arthritis (11 cases), spondylarthropathies (20 cases), connective tissue diseases (4 cases), and unclassified CIR (31 cases). The infectious arthritis was caused by a banal germ in 31 cases and by bacillus of Koch in nine other cases. Gout patients (35 men and 2 women) had a median age of 43 years at the onset of the disease.

**Conclusion:** This study demonstrates the high incidence of chronic inflammatory rheumatism in Northern-Togo.

**Keywords:** Inflammatory rheumatism; Infections; Gout; Togo

[2]. The inflammatory arthropathies can be accompanied with depressive episodes which seem to be more frequent in Americans and Asians than in Africans and Europeans [3]. These affections create high costs which can impact negatively on the development of certain countries [4,5].

In Africa, many studies carried out in hospitals showed that the inflammatory arthropathies were a common reason for consultation [6-8]. Just like all over the world, the prevalence of the gout in Africa is in constant increasing [9,10]. Relatively scarce in Western and Central Africa [11,12], rheumatoid arthritis (RA) seems to be more frequent in Southern Africa [1]. The osteoarticular infections are even more frequent [13,14]. The aim of this study was to determine the epidemiological and etiological profiles of the different inflammatory arthropathies among population in the northern part of Togo.

### Patients and Methods

It was a study of series of case carried out on the records of patients with inflammatory arthropathies and admitted to the rheumatologic consultation at Kara University Teaching Hospital from April, 2012 to March 2016. This teaching hospital is located in the city of Kara at 420 km north of Lomé, Togo's capital. The patients suffering from a congestive osteoarthritis were excluded from the study. The data collection has been done through a field survey sheet which includes civil status, clinical (characteristics of the pain and the clinical symptoms), and the paraclinical (biology and imaging) informations of the patients. The patients suffering from RA and connective tissue diseases have met for each category the criteria of the American College of Rheumatology (ACR) [15]; and those suffering from spondylarthropathies answered to the criteria of Amor [16]. The gout has been identified on the basis of American Rheumatism Association (ARA) criteria [17]. The positive diagnosis of the infectious arthritis was essentially radioclinical. In the absence of isolation of the germ responsible for the infection, the etiological diagnosis has been raised by presumption on the

### Introduction

Inflammatory arthropathies results from the involvement of the articular cartilage in connection with an inflammatory phenomenon [1]. In the United States, about 23.7 million adults have a limitation in their activities due to this group of diseases

basis of clinical, biological, radiological and epidemiological arguments. The overweight is reported if the body mass index (BMI) was higher than 25 kg/m<sup>2</sup>, and the obesity if the IMC was higher or equal to 30 kg/m<sup>2</sup>. No patient benefited from immunological examinations because of their high cost relevant to their unavailability in Togo. The uricemia has been considered high if it was greater than 70 mg/dl in man and 60 mg/dl in woman. The Microsoft Access 2013 was used for data analysis.

**Ethical considerations:** This study received the authorization of the director of Kara University teaching hospital to be conducted. Since this was a case file review, patient consent was not required. However, when collecting the data, the names of the patients were not mentioned to preserve confidentiality.

## Results

**Epidemiological data:** Among the 2361 rheumatic patients admitted during the period of study, 152 (6.83%) of them suffered from an inflammatory arthropathy. They were made of 87 men (57.24%) and 65 women (42.76%) accounting for a sex-ratio M/W of 1.33. The main etiologies observed were: chronic inflammatory rheumatism (CIR) and connective tissue diseases (75 patients; 49.34%), infectious arthritis (40 cases; 26.32%), and gout (37 cases; 24.34%).

**Chronic inflammatory rheumatism and the connective tissue diseases:** The median age of the 75 patients (41 women and 34 men) suffering from CIR and connective tissue diseases was 40 years old at the beginning of the disease (extremes: two years and 75 years). The median duration of the disease was 3.11 years (extremes: 3 days and 18 years). The unclassified CIR and the RA have been the main clinical forms observed (**table 1**).

**Table 1:** Distribution of patients according to different clinical forms of chronic inflammatory rheumatism.

|  | Women     | Men       |
|--|-----------|-----------|
| Unclassified chronic inflammatory rheumatism | 15        | 16        |
| Rheumatoid arthritis                         | 8         | 3         |
| Unclassified spondyloarthropathies           | 4         | 4         |
| Reactional arthritis                         | 5         | 6         |
| Ankylosing spondylitis                       | 0         | 1         |
| Unclassified connective tissue diseases      | 2         | 1         |
| Scleroderma                                  | 2         | 0         |
| Rheumatic fever                              | 0         | 2         |
| Chronic juvenile arthritis                   | 2         | 1         |
| Pallidromic rheumatism                       | 2         | 0         |
| Rhizomelic pseudopolyarthritis               | 1         | 0         |
| <b>Total</b>                                 | <b>41</b> | <b>34</b> |

The involvement was monoarticular in 10 cases (13.51%), oligoarticular in 36 cases (48.65%) and polyarticular in 28 cases (37.84%). A 39-year-old man suffered from ankylosing spondylitis without any peripheral articular reach. Among the 11

patients affected by reactive arthritis, nine of them were carrying the human immunodeficiency virus (HIV). The median erythrocyte sedimentation rate was 57 mm at the first h (extremes: 4 and 150 mm).

**Table 2:** Frequency of factors associated with gout.

|                               | Number (%) |
|-------------------------------|------------|
| Alcoholism                    | 28 (75.67) |
| Excessive consumption of meat | 21 (56.75) |
| Overweight/obesity            | 21 (56.75) |
| Arterial high blood pressure  | 19 (51.35) |
| Diabetes mellitus             | 5 (13.51)  |
| Family history of gout        | 3 (8.10)   |

**Gout:** It has affected 35 men (94.59%) and two women (5.41%). The median age of the men at the beginning of the disease was of 42.86 years old (extremes: 29 and 64 years old). Both women were 64 and 74-year-old respectively. The median duration of evolution of gout was 4.1 years (extremes: two days and 20 years). Three patients (8.11%) consulted during the first crisis; seven patients (18.92%) had between two and four crises at the time of their consultation; and 27 others (72.97%) had at least five painful crises. The reach was monoarticular in 8 patients (21.62%), oligoarticular in 19 patients (51.35%) and polyarticular in the 10 other cases (27.03%). The most affected joints were: the ankle (26 cases; 70.27%), the knee (22 cases; 59.45%); the metatarsophalangeal (18 cases; 48.64%), the wrist (15 cases; 40.54%) and the metatarsus (14 cases; 37.83%). Eight patients had tophi, which were ulcerated in two cases. One patient had kidney failure. The median uricaemia at the first consultation was 81.27 mg/dl (extremes: 50 and 119.10 mg/dl). The median erythrocyte sedimentation rate was 54 mm (extremes: 15 to 110 mm). Standard X-ray showed an uratic arthropathy in three of the nine patients who have made a radiographic of the painful zones. The excessive consumption of alcohol (75.67%) was the main risk factor of the gout found (**table 2**).

**Table 3:** Distribution of patients according to joints affected by infectious.

|             | Number (%) |
|-------------|------------|
| Knee        | 15 (37.5)  |
| Coxofémoral | 13 (32.5)  |
| Shoulder    | 5 (12.5)   |
| Tarsus      | 5 (12.5)   |
| Elbow       | 3 (7.5)    |
| Hand        | 3 (7.5)    |
| Ankle       | 1 (2.5)    |

**Infectious arthritis:** The 40 patients (18 men and 22 women) suffering from infectious arthritis had a mean age of 43.5 ±

18.12 years old (extremes: 6 years and 80 years old). The median duration of evolution of the infectious was 4.2 months (extremes: 4 days and 45 months). The arthritis was caused by a banal germ in 31 cases (77.50%) and by *bacillus* of Koch in the nine other cases (22.50%). A germ has been isolated in six patients: the *staphylococcus aureus* (three cases), the *staphylococcus epidermis* (one case), and the *streptococcus* (two cases). The knee and the coxofemoral were the most affected joints (**table 3**). The infectious reached at least two joints in four patients.

## Discussion

Inflammatory arthropathies motivated the consultation of 6.43% of the patients suffering from rheumatism in Kara. The strict interpretation of the results requires taking into account selection biases (hospital-based study that took into account only patients admitted at the hospital and viewed in the rheumatology department), and the narrowness of the technical platform (absence of immunology laboratory and lack of certain culture media to isolate germs). In a previous study in Lomé, arthritis accounted for 8% of consultation reasons [18], confirming the non-negligible part of this group of diseases in Africa [6,7,19-21]. The CIR were the first etiology of arthritis found. However, we have noticed an important part of the unclassified forms that could have been labelled by immunological tests. In some African countries [20,22], this rate had decreased in thanks to the progress of the diagnostic refinement. The mean age of our patients is close to that found in Congo [20]. In West, RA is the leading cause of arthritis [23,24]. Though, unequally spread on the African continent, the RA affects more women than men [11,12,25,26]; and would be associated with semiological differences depending on the rural or urban residential area [1,27]. These differences noted in Africa confirm the role of the environmental factors in the genesis of this affection. However, it would be important to conduct specialized studies to determine these factors. The new diagnostic criteria of RA [28] help an early recognition of the disease before the appearance of the radiological signs, thus improving the therapeutic care [29]. Nine out of 11 patients with reactive arthritis were HIV positive in our study. HIV infection has altered the epidemiological profile of spondylarthropathies in black Africans where it appears as the leading cause of the reactive arthritis [30,31]. However, the diagnostic and therapeutic difficulties are not uncommon in the case of HIV combination with inflammatory rheumatism, because of interactions between antiretroviral therapy and some immunosuppressive drugs [32-34]. The rarity of connective tissue diseases in Black Africa [35,36] is confirmed in our study. However, this rarity could be underestimated in our study because of the polymorphic character of their symptomatology that may lead to poor orientation of the patient, and the lack of immunological tests to confirm the diagnosis.

Infectious arthritis accounted for 26.32% of the inflammatory arthropathies in our patients. There was low isolation of germs compared to developed countries where this rate can reach 80% [37]. This could be explained by the insufficiency of the technical platform and the low socio-economic level of the patients. The

demographic and semiological characteristics of the patients suffering of infectious arthritis were similar to those found by other African authors [13,14,38].

Twenty four point thirty four percent of our patients suffered from gout. In Lomé, microcrystalline arthropathies accounted for 21.6% of arthritis [18]. The high frequency of gout is now well established in blacks where it appears as the leading cause of arthritis in Central Africa [6,7,39,40]. The frequency of oligo and polyarticular forms, and tophi would be related to the delayed diagnosis noted in our patients who rarely consult at the first crisis. The associated risk factors (mostly cardiovascular) can darken the prognosis of the gout [41], hence the importance of educating populations on the strategies of their reduction [29,42].

## Conclusion

Inflammatory arthropathies are a frequent reason for consultation in rheumatologic department in Northern Togo. Chronic inflammatory rheumatism are the first etiology of this group of diseases, reflecting the epidemiological transition observed on the African continent. However, infectious arthritis and gout remain frequent; hence the interest of intensifying the fight against their risk factors. The high frequency of unclassified forms justifies multicenter studies of immunological markers on African populations. However, the equipment of health facilities remains a challenge for early diagnosis and better management of rheumatic diseases in Africa.

## Conflict of Interests

None

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