

# Rheumatic Diseases in HIV-Positive Patients in Kara (Togo)

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## Abstract

Short Communication

Aim: To determine the epidemiological profile and semiological characteristics of osteoarticular manifestations in people infected with human immunodefienciency virus (HIV) in the northern region of Togo.

**Patients and methods**: It was a cross-sectional study conducted on the records of patients with rheumatic affection and infected with HIV, admitted in rheumatologic consultation in Kara teaching hospital (Togo) from April 2012 to February 2017.

**Results**: Fifty-eight patients (70.69% female and 29.31% male) were HIV positive. Their meanage during consultation was  $47.94 \pm 9.13$  years old. Traders (37.93%) and workers of informal sector (22.41%) were the most affected. The HIV infection was known by the patientin 45 cases before the consultation among which 41have beenunder antiretroviral therapy (ART). The main rheumatic manifestations were: degenerative pathology of the spine (28 cases), infectious pathology (12 cases of which 7 were Pott's disease), reactive arthritis (9 cases) and osteonecrosis (5 cases). The mean body mass index in the 58 patients was 23.77 Kg/m<sup>2</sup> ± 6.44.Fever(13.79%) and alteration of general condition (43.10%) were the main other signs observed. Anemia was present in 50% of cases. The erythrocyte sedimentation rate in the first hourwas higher than 50 mm in 62.06% of cases.

**Conclusion**: The degenerative pathology of the spine is common in rheumatic patients infected with HIV in Togo. However, there is an increasing part of the osteonecrosis directly related to HIV and the ART.

Keywords: HIV; Antiretroviral therapy; Rheumatism; Infection; Osteonecrosis; Togo

## Introduction

In 2016, 36.7 million people have been infected with the human immunodeficiency virus (HIV) and the majority of them live in sub-Saharan Africa [1]. The first rheumatological manifestations of the HIV have been described since 1989 and were dominated by arthritis and arthralgia [2,3]. Thanks to the early initiation of the Antiretroviral Therapy (ART), the life expectancy of the carriers has virtually been normalized [4], favoring the emergence of non-transmissible chronic diseases. Besides, these people have a low quality of life when they suffer from musculoskeletal disorders, unlike those who do not [5]. In Togo, no study has been done on the rheumatic diseases among HIV-infected patients in the northern part so far.Therefore, the objective of this study was to determine the epidemiological profile and the semiological characteristics of the osteoarticular disorders found in HIV-positive people.

# **Patients and Methods**

It was a cross-sectional study carried out from April 2012 to February 2017 on the records of HIV-positive patients admitted in the department of rheumatology in Kara teaching hospital. Thishospital is located in the northern region of Togo, a West African country that had about 100000 infected people in 2016 and 51 % of them were benefiting of ART [6]. Patients with rheumatic disease who have been screened positive before or after the first rheumatological consultation have been included in the study. The diagnosis of reactive arthritis was based on Amor criteria [7]. That of osteoarticular infection was mainly based on the radio-clinical arguments. In the absence of isolation of the germ responsible for the infection, the epidemiological arguments have helped to presumptively evoke the etiological diagnosis. The anemia was reported when the hemoglobin level was lower than 12 g/dl in men and 11 g/dl in women. The data collection has been done through a field survey sheet which includes civil status, clinical, paraclinical (according to the context) and hospitalization informations of the patients. The data have been processed by Epi info7 software.

### Results

Out of 2869 patients admitted during the period of study, 58 of them (2.02%) have been infected with HIV. They were divided up into 41 women (70.69%) and 17 (29.31%) men accounting for a sex ratio of M/W 0.41. The mean age of the patients during the rheumatological consultation was 47.94 years old  $\pm$  9.13 (extremes: 19 to 65 years old). The meanduration of the rheumatic affection was 27.74 months (extremes: one day and 6.6 years). Traders and retailers (37.93%), workers of the informal sector (22.41%), civil servants (18.97%), housewives (13.79%) and farmers (6.90%) have been the major occupational groups infected with HIV. The retrovirus was known in 45 patients (77.59%) before the consultation and 41 of them (91.11%) have been under ART. This treatment was undertaken on average 5.33 years before the consultation. The screening has been done in the office among 13 patients (22.41%).

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	Number (%)
Degenerative pathology of the spine	28 (48.27)
Infectious pathology	12 (20.68)
Reactive arthritis	9 (15.51)
Osteonecrosis	5 (8.62)
Kneeosteoarthritis	5 (8.62)
HIV related arthropathy	4 (6.89)
Tendinitis	4 (6.89)
Carpal tunnel syndrome	3 (5.17)
Gout	2 (3.44)
Bone tumor	2 (3.44)
Undetermined diagnosis	3 (5.17)

Table 1: Distribution of HIV-positive patients according to the rheumatic diseases.

The main rheumatic diseases found in these patients have beenthe degenerative pathology of the spine in 48.27% of cases and the infectious pathology in 20.68% of cases (Table 1). Out of the 12 patients with osteoarticular infections, seven of them had the Pott's disease; and one female patient had a tuberculous polyseritis (peritonitis, left pleurisy and oligoarthritis of the left ankle and the rights elbow and wrist). Another female patient had anosteonecrosis of the humeral head and three out of four patients had a bilateral osteonecrosis of the femoral head. We noticed the presence of the fever in 13.79% of cases and an alteration of general condition in 43.10% of cases. The mean body mass index (BMI) was 23.77 Kg/m<sup>2</sup>  $\pm$  6.44. The anemia found in 50% of cases, was predominantly macrocytic (55.10%) and normochromic (67.35%). The meancount of the white blood cells was 5165 elements/ m<sup>3</sup> (extremes: 2680 and 13000 elements/m<sup>3</sup>) and the mean rate of the lymphocytes was 1859 elements/m<sup>3</sup> (extremes: 775 and 3900 elements/ m<sup>3</sup>). The erythrocyte sedimentation ratein the first hour was higher than 50 mm in 62.06% of cases. The mean hospital stay among 22 patients was 13.45 days (extremes: 3 and 72 days).

### Discussion

2.02% of rheumatic patients were carryingthe HIV. This rate is close to the one of the national HIV prevalence in Togo, which is 2.5% [6]. However, it might be undervalued due to thepatient's recruitment mode that has only been done in the rheumatological environments. A study conducted in an infectious disease clinicin Uganda has found 27% of musculoskeletal manifestations [8]. The mean age of our patients is similar to that found by some authors [9-12]. Women and traders retailers were most affected in our study. This could be explained by the fact that in Togo, women are dominant in that sector of business with a relatively low grade level.

The degenerative pathology of the spine was the first reason for consultation by the HIV-infected patients and their mean BMI was 23.77 Kg/m<sup>2</sup>. The same finding was made in Burkina Faso [13,14] and Thailand. This is due in part to the classical frequency of degenerative disease of the spine that remains the first motive for consultation of the rheumatic patients. The infectious pathology was dominated by Pott's disease in our study. The infectious spondylodiscitis seem to be more frequent than the infectious arthritis with banal germ during HIV infection [15]. Moreover, the association of HIV and osteoarticular tuberculosis is common in Africa [10,11], raising the problems of therapeutic treatment due to the interactions between rifampicin and the protease inhibitors [16,17]. The reactive arthritis and arthropathy associated with HIV are classical manifestations among HIV-positive patients [2,3,8,9,18,19]. All the same, the treatment of this inflammatory rheumatism remains a challenge dominated by the interactions between theART and the immunosuppressive treatment [20,21]. Unlike the West, where they appear as frequently associated with HIV and its treatment [22-26], no case of connectivity and vasculitis was found in our study. The rarity of these affections in the black race would be the main reason. The osteonecrosis are therefore now associated with HIV and/or with its treatment [9,27-29] and they tend to be bilateral in our study. Tendinopathies and carpal tunnel syndrome are also common during HIV infection [10-12,30]. The Macrocytic anemiapredominated in our patients and would be related to stavudine that was widely used in the protocols of ART in Togo. The moderate acceleration of the ESR has been described by other authors [8,10].

## Conclusion

Rheumatic affections are common in HIV-infected patients. The extension in their life expectancy thanks to the new ART has led them to consult more often for diseases unrelated to HIV amongwhich the degenerative pathology of the spine is the leading disease in the Northern region Togo. However, the iatrogenic complications, dominated by osteonecrosis in Africa, pose additional challenges to be met.

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