

Full Length Research Paper

Prurigo in People Living with HIV (PLHIV) in Cotonou, Benin

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Abstract

Prurigo is a dermatosis especially prevalent among patients infected with HIV. The objective of this work was to study the clinical and epidemiological features of prurigo in a population infected with HIV in Cotonou. This was a cross-sectional study on people living with HIV (PLHIV) in a center of care over a period of six months. The data were collected employing a survey form and were processed and analyzed using Epi Info 6. 117 People Living with HIV (PLHIV) were seen during the study period. Prurigo was present in 53.80% of patients and represented the most common skin disease (34.16%). The maculo-papular lesion was the most frequent, representing 36.40% of the clinical forms. The most frequent sites were the lower and upper limbs followed by the trunk. The prevalence of prurigo was statistically higher in patients with a low CD4 count.

Keywords: Africa, AIDS, ART, HIV, Prurigo

INTRODUCTION

HIV infection is often accompanied by mucocutaneous manifestations, classified by some authors into three categories: infectious lesions, tumor lesions and miscellaneous skin diseases (Bournerias, 1989, Fegueux et al., 1992) where prurigo is very frequent.

The objective of this work was to study the clinical and epidemiological features of prurigo in a population living with HIV (PLHIV) in Benin.

PATIENTS AND METHOD

This was a cross-sectional study on prurigo among PLHIV either on antiretroviral therapy (ART) or not,

followed in the Ambulatory Treatment Center (ATC) of the "Centre National Hospitalier et Universitaire" (CNHU) of Cotonou from 15 February 2006 through 15 August 2006 over a period of six months. The ATC is one of the largest centers of care for PLHIV in Cotonou.

Our sample was composed of all PLHIV having at least one skin disease and who came to the ATC during the enquiry period. PLHIV included all subjects with HIV infection confirmed by two serological tests according to national recommendations. All HIV-positive patients were examined by the same dermatologist with extensive practical experience. The diagnosis of dermatosis was made primarily on the clinical aspect considering a possible modification induced by treatment. Additional tests were not carried out because of their high costs and the limited technical support. A personal treatment and a follow-up appointment were proposed for each patient. For each case of prurigo, we classified the clinical lesions, their sites and the level of immunosuppression of

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Table 1. Distribution of various clinical lesions of prurigo depending on the therapeutic status of PLHIV

Elementary lesions	Under ART		No ART		Total	
	Number	%	Number	%	Number	%
Maculo-papule	22	39,3	6	28,6	28	36,4
Macule	12	21,4	4	19,0	16	20,8
Papule	5	8,9	3	14,3	8	10,4
Papulo-vesicle	5	8,9	3	14,3	8	10,4
Vesicle	3	5,4	1	4,8	4	5,2
Scaling	3	5,4	1	4,8	4	5,2
Erythema	2	3,6	1	4,8	3	3,9
Ulceration	2	3,6	1	4,8	3	3,9
Pustule	2	3,6	1	4,8	3	3,9
Total	56	100	21	100	77	100

Table 2. Distribution of different localizations of prurigo depending on therapeutic status of PLHIV

Lesion localizations	Under ART		No ART		Total	
	Number	%	Number	%	Number	%
Upper limbs	39	30,2	12	27,9	51	29,7
Lower limbs	39	30,2	13	30,2	52	30,2
Trunk	24	18,6	8	18,6	32	18,6
Face	14	10,9	6	14,0	20	11,6
Generalised	6	4,7	2	4,7	8	4,7
EGO	3	2,3	1	2,3	4	2,3
Scalp	3	2,3	1	2,3	4	2,3
Neck	1	3,9	0	0,0	1	0,6
Total	129	100	43	100	172	100

EGO: external genital organs.

patients based on the CD4 count. The patient sample was divided into two groups: one group treated with antiretroviral (ART) drugs and the other without treatment.

Data were collected using a survey form filled during the consultation and supplemented by the material contained in patient records. They were processed and analyzed by Epi Info 6. To compare the proportions of the numbers of patients with different skin lesions, different lesion sites and different CD4 count between the two populations -under ART and without treatment, the Chi2 test corrected by Yates, and Fisher's exact test were used. A difference between two proportions is statistically significant if the p-value is less than 0.05. Patients were informed of the objectives of our study gave their agreement for its implementation. The confidentiality of information concerning them was guaranteed.

RESULTS

During the study period, 604 PLHIV were examined, of

which 117 had a dermatosis (19.37%). Sixty three out of the 117 who presented with a dermatosis had a prurigo (53.80%). In 49.20% of cases of prurigo, it had allowed the diagnosis of the concomitant infection.

The sex ratio M/F of patients with prurigo is 0.75 for an overall sex ratio in our series of 0.67.

The papulo-vesicles typical of prurigo were found in 10.40% of cases. However, the most prevalent lesions at the physical examination were maculo-papules (36.40%) and hyperpigmented macules with a hypochromic central part (20.80%). Table 1 above summarizes the distribution of elementary lesions in examined patients.

The upper and lower limbs were the most frequently affected in equal proportions, followed by the trunk in both subpopulations (Table 2).

In Tables 3, we found a statistically significant difference between PLHIV with a CD4 count below 100 cells/mm³ and those with a CD4 count above 100 cells/mm³ (p = 0.0017). Of a total of 87 patients treated with ART, 47 presented a prurigo against 16 out of 30 not treated with ART; there is no statistically significant difference between PLHIV on ART and those not treated

Table 3. Distribution of cases of prurigo based on CD4 count in our patients

	CD4 class						Total
	0-49	50-99	100-199	200-299	300-399	400-499	
	n=48	n=24	n=25	n=10	n=7	n=3	N=117
Number of cases of prurigo	38	9	7	5	3	1	63

($p = 0.88$).

DISCUSSION

Through our investigation we have studied the clinical and epidemiological features of prurigo in PLHIV in Cotonou. However, our study has limitations in the diagnosis of prurigo because it was established only based on clinical evidence.

Prurigo was the most common cutaneous manifestation in our PLHIV; it was present in 10.43% of all surveyed PLHIV, achieving 34.61% of all dermatosis. In half the cases (49.20%), it suggested HIV testing in our patients, revealing as the primary cutaneous marker of HIV in Cotonou. This result is similar to Mahe and colleagues in Mali, which found that prurigo was indicative of HIV in 46% of cases (Mahe et al., 1996).

Monsel et al ranked prurigo as the second dermatitis in PLHIV together with herpes zoster; oral candidiasis being the most frequent one (Monsel et al., 2008). In our study, prurigo was the first dermatosis. Its positive predictive value is high in Africa: 82% in Zambia (Hira et al., 1988), 76% in Uganda (Mayanja et al., 1999) and 46% in Mali (Mahe et al., 1996). In 1993, in Cotonou, Benin, Yedomon et al (Yedomon et al., 1991) found the prurigo in 23.70% of their patients against 53.80% in our study. Since prurigo is now known as a good marker of HIV, this difference could be explained by the fact that HIV test could be conducted more frequently in case of prurigo. Prurigo seems so common in Africa that, in a suggestive context, it directs toward the diagnosis of AIDS (Bournerias, 1989). Clinically, prurigo had presented a false polymorphism including primitive elementary lesions and secondary lesions. This false polymorphism is also found in prurigo unrelated to HIV, but in the PLHIV, prurigo has a tendency to chronicity (Mahe et al., 1997). Treated or not, the clinical lesions are the same. Liautaud describes the elementary lesion of prurigo in the PLHIV as an erythematous or hyperpigmented papule surmounted by a vesicle often modified by scratching (Liautaud, 1994). We agree with Liautaud that the elementary lesion of prurigo is a papulo-vesicle and it represented only 10.4% of lesions in our patients. However, that description does not seem to account for

all the clinical lesions observed in the patients. Indeed, the papulo-vesicle is of secondary importance compared to secondary lesions observed in these patients giving a false lesional polymorphism. Many sites have been involved, limbs, genitalia, trunk, face and scalp. The most frequently involved sites in our investigation are: the lower limbs (30.20%), the upper limbs (29.70%) and the trunk (18.60%) against 91%, 70% and 48% respectively for Mahe and others (Mahe et al., 1996). The peculiarities of prurigo in our PLHIV patients are the external genitalia involvement and the widespread nature of the eruption in some of them. Generalized lesions were observed in 4.70% of cases. The palms and soles were spared. Statistically, there was no difference in the prurigo localization in both populations of treated and untreated PLHIV. Mahe and colleagues for their part have not noticed any significant difference between the localization of prurigo in people with HIV and without HIV (Mahe et al., 1997). There was no statistically difference in the prevalence of prurigo between the population of PLHIV on ART and those not on ART ($p = 0.88$).

From the immunological point of view, prurigo seemed to be more prevalent in populations with low CD4 cell count. Indeed, the lower the CD4 cell count is the more the number of cases of prurigo increases. Comparison of the prevalence of prurigo among the various classes of CD4 showed a statistically significant difference. Prurigo has been present at all stages of cell depression, with a higher prevalence in the population with a low CD4 count. It is therefore a good marker of immunosuppression as demonstrated Magand and colleagues (Magand et al., 2009). Indeed, the median CD4 count at diagnosis of HIV infection in patients affected by prurigo is lower than that of patients with herpes zoster (87 against 302 cells/mm³). These authors proposed to consider prurigo as a clinical marker of eligibility for ART in the geographical areas where the measurement of CD4 count is not always possible (Magand et al., 2009).

CONCLUSION

This study has highlighted the high prevalence of prurigo among the PLHIV in Benin, while emphasizing its great value in the screening of HIV. In addition, the clinical

features of prurigo were apparently not influenced by ARV. On the other hand, a low CD4 count appeared to be significantly correlated with a high prevalence of prurigo. Prurigo can be considered as a clinical marker of eligibility for ART in countries where measurement of CD4 count is not always possible.

REFERENCES

- Bournerias L (1989). Atteintes cutanées au cours de l'infection par VIH. In : Montagnier L, Rosenbaum W, Gluckman JC, édition. SIDA et infections par VIH. Paris: Flammarion. 251-263
- Fegueux S, Picard C, Belaïch S (1992). Manifestations dermatologiques. In : Kernbaum S, édition. Le praticien face au SIDA. Paris : Flammarion. 74-79
- Hira SK, Wadhawan D, Kamanga J (1988). Cutaneous manifestations of human immunodeficiency virus in Lusaka, Zambia. *J. Am. Acad. Dermatol.* 19 : 451-457
- Liataud B (1994). Le prurigo du SIDA (Prurigo malin) *Medecine Tropicale.* (4 bis) :439-445
- Magand F, Nacher M, Sainte Marie D, Clyti E, Labeille B, Perrot JL, Cambazard F, Couppie P (2009). Le prurigo et le zona révélateurs de l'infection par le VIH en Guyane française et association avec le degré d'immunodépression. *Annales de Dermatologie-Venereologie.* 136 A65. Abstract.
- Mahe A, Bobin P, Coulibaly S, Tounkara A. (1997). Dermatoses révélatrices de l'infection par le virus de l'immunodéficience humaine au Mali. *Annales de Dermatologie-Venereologie.* 124: 144-150.
- Mahe A, Simon F, Coulibaly S, Tounkara A, Bobin P (1996). Predictive value of seborrheic dermatitis and other common dermatoses for HIV infection in Bamako, Mali. *Journal of American Academy of Dermatology.* 34 : 1084-1086.
- Mayanja B, Morgan D, Ross A, Whitworth J. (1999). The burden of mucocutaneous conditions and the association with HIV-1 in a rural community in Uganda. *Trop. Med. Int. Health.* 4:349-354
- Monsel G, Ly F, Canestri A, Dioussé P, Ndiaye B, Caumes E (2008). Prévalence des manifestations dermatologiques chez les malades infectés par le VIH au Sénégal et association avec le degré d'immunodépression.. *Annales de Dermatologie-Venereologie.* 135(3): 187-193.
- Yedomon H, Padonou F, Adjibi A, Zohoun I, Bigot A (1991). Manifestations cutané-muqueuses au cours de l'infection par le virus de l'immunodéficience humaine (VIH). *Médecine d'Afrique Noire.* 38: 807- 814.