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Dermatomyositis: Epidemiological, Clinical and Evolutionary Aspects in the African Black

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ABSTRACT

We performed this study to describe the epidemiological, clinical, evolutionary and identify peculiarities of this disease in the black African.

Methodology: The study was performed in the Dermatology Center of Treichville University Teaching Hospital (UTH). It was a retrospective study performed over a period of 15 years from January 2000 to December 2014. Only patients being followed up at our service and meeting at least four of the five Bohan and Peter diagnostic criteria were considered. **Results:** The relative prevalence of Dermatomyositis was 24, 7 per 100,000 patients seen in dermatology. The average age was 37,3 years with a male predominance (54.16%). The cutaneous manifestations as the first sign were observed in all patients. The common clinical forms such as dermatomyositis (83, 33%) were more frequent than Amyopathic forms (16, 67%). Electromyography performed in 75% of cases has always been in favor of diagnosis (100%), while histological examination performed in 62.5% was contributory in 50% of cases. Corticosteroid therapy was prescribed only in 95.83% of cases. The starting dose adequate for remission of cutaneous and muscular signs was 60 mg / day and the minimum dose sufficient for a good control of the disease was 15 mg / d. The death rate was 12, 5% (3 cases). **Conclusion**: Dermatomyositis is a rare disease. Skin and muscle clinical signs are always met. The course is chronic and corticosteroids remain an effective treatment.

Keywords: Dermatomyositis, Connectivities, Corticosteroids, Immunosuppressive drugs, African

INTRODUCTION

Dermatomyositis is a connective inflammation which affect skin and muscles [1]. Its evolution is chronic, punctuated by numerous complications. This is a rare disease with severe prognosis. It is the third connective after lupus and scleroderma. The prevalence of this disease varies from one region to another [2,3]. Clinical aspects are varied in the literature. Its treatment uses steroids as first line. Few studies have been concerned to this disease in black African people. We performed this study to describe the epidemiological, clinical and identify evolutionary peculiarities of this disease in the black African.

Patients and methods

The study was performed in the Dermatology Center of Treichville University Teaching Hospital (UTH). This hospital is the main centre that manages skin diseases in the country. It was a retrospective study performed over a period of 15 years from January 2000 to December 2014.

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Only patients being followed up at our service and meeting at least four of the five Bohan and Peter diagnostic criteria were considered.

All patients who have another connective problem or having unusable folders were not included. The following parameters were studied: Age, sex, socio-professional category, associated diseases, skin and muscle signs, functional and general signs, biological data, side effects, instituted therapy and associated disease. The program EPI INFO version 3.5.1 was used for recording and the data analysis. Continuous variables were expressed as mean ± standard deviation (SD), and categorical variables were expressed as percentages.

RESULTS

Epidemiology

We identified 24 patients who met the inclusion criteria on 96834 patients seen in consultation, a relative prevalence of 24, 7 per 100,000 patients. The ages of our patients were between 9 and 81 years. The average age was 37.3 years, the age groups of 45-55 (33.33%) and 25-35 years (29, 16%) were the most affected. There was a male predominance (54.16%) with a sex ratio of 1.18. Patients with higher monthly incomes were more numerous with 41, 66% (10 cases).

Clinical aspects

The time of first consultation ranged from 1 week to 1 year 10 months with an average of three months. Cutaneous manifestations were the first signs observed in all patients (**Figure 1**). Associated pathologies were vitiligo (4 cases) and lupus (2 cases). Most patients (75%) had no underlying diseases. Erythema of sun exposure areas and cutaneous hyperpigmentation signs were found in all patients (**Table 1**). Concerning the muscles, myalgia and muscle weakness were the most frequent signs (**Table 2**). These muscle manifestations were always associated with cutaneous signs. Other associated signs were dominated by the alteration of the general condition in 23 cases (95, 83%), fever in 11 patients (45, 83%) and pruritus in 6 cases (25%) (**Table 3**). The clinical forms like common dermatomyositis (83, 33%) were more frequent than Amyopathic forms (16, 67%). All forms have evolved in a chronic mode.

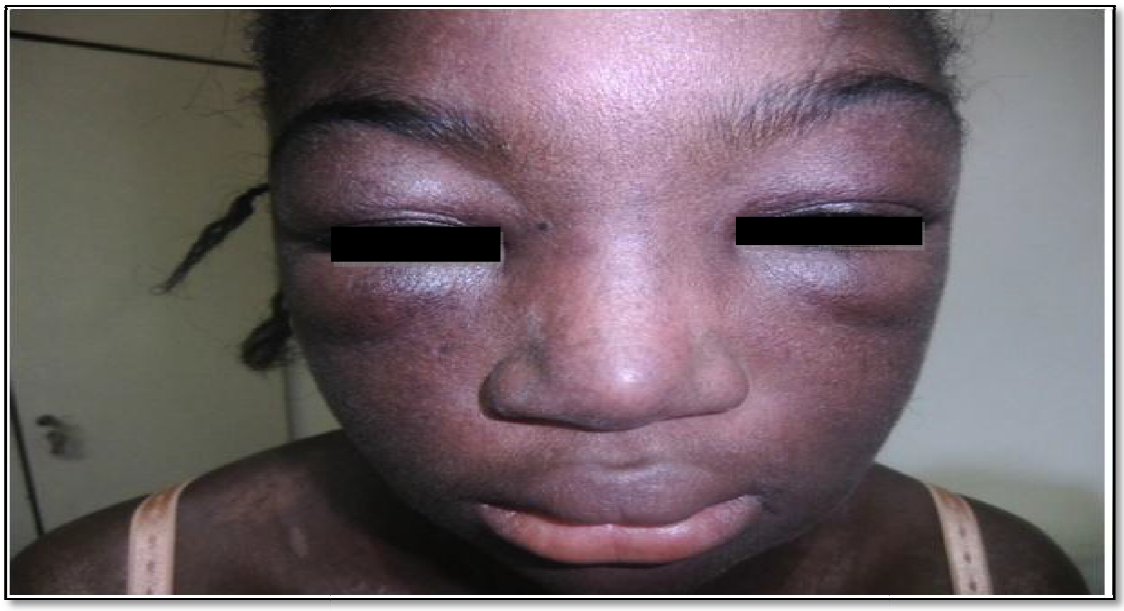

Figure 1. Cutaneous manifestations in patients (heliotrope rash, hyperpigmentation, and facial edema).

The diagnostic tests

The lactate dehydrogenase (LDH) and creatine phosphokinase (CPK) that were jointly high (87.5% of cases) but associated in 12.5% of cases. Electromyography (EMG) performed in 75% of cases was always in favor of diagnosis (100%), while the histological examination carried out in 62.5% was contributory in 50% of cases. Chest x-ray and electrocardiogram (ECG) performed by all patients were abnormal in 12.5% (3 cases).

Treatment and evolution

Only corticosteroid therapy was most prescribed (95.83%) and the loading dose sufficient for a remission of skin and muscle signs was 60 mg / day. sufficient minimum dose for good control of the disease was 15 mg / day. side effects of corticosteroids were diabetes (4 cases) and hypertension (2 cases). The minimum follow-up duration was 2 months 3weeks and the maximum duration was 2 years. In 8, 33% of cases corticosteroids were associated with methotrexate. Clinical improvement was observed 2 months after initiation

of treatment in 20, 83% of cases and 4 months after initiation of treatment in 62,5% of cases. The death rate was 12, 5% (3 cases). The causes were: decompensated anemia, pulmonary distress and sepsis with one case each.

Table 1. Distribution according to the skin lesions

Signs	Number	Percentage(%)
Heliotrope Rash	24	100
Hyperpigmentation	24	100
Facial Edema	13	54,16
Gottron's Papule	7	29,16
Poikiloderma	5	20,83
Seborrheic Scalp	2	08,33
Telangiectasia	2	08,33

NB : Why Gottron's Papule is not evaluated? Gottron's Papule is evaluated in this table. **Hyperpigmentation is a characteristic cutaneous feature of dermatomyositis?** Yes**,** because hyperpigmentation on black skin may be related to a erythema so it is very important.

Table 2. Distribution muscle signs

Signs	Number	Percentage(%)
Myalgia	24	100
Muscle weakness	24	100
Muscle cramps	9	37,50
Amyotrophy	5	20,83

Table 3. Distribution according to the associated signs

Signs	Number	Percentage(%)
Altered General Condition	23	95,83
Fever	11	45,83
Pruritus	6	25
Dysphagia	4	16,66
Joint Damage	3	12,5
Cardiac Disease	3	12,5
Lung Disease	2	08,33

DISCUSSIONS

This study reveals that dermatomyositis has a prevalence of 24, 7 per 100,000 in Ivory Coast. In Togo 16 cases were diagnosed between 1980 and 1996 [4], 56 cases in Senegal between 1983 and 2001 [5], for the Afro-Caribbean population 37 cases between 2000 and 2012 [6]. The prevalence of this disease in the black subject is low compared to the Japanese with 17,000 cases in 2009 [7].

Although in the literature dermatomyositis is frequent in women [1,2,3] our study found a male predominance with a sex ratio of 1.18. To Africa black people, Dieng et al., [5] have also found a female predominance with a sex ratio of 0.27. This difference is due to the fact that there is no social insurance in Ivory Coast. Health cares are so very expensive. In our context women not having enough financial resources do not come to the hospital. Our patients were mostly young adults with an average age of 37, 3 years. This condition therefore rarely achieved children [1,8,9]. 41,66% of patients had a high socioeconomic level (patients who have more than 600 euros per month). In the literature, no correlation between dermatomyositis and socio economic level was reported. The excessive cost of additional tests could explain this difference observed in our study. These paraclinical examinations have a vital interest in the diagnosis of this condition [10,11]. Skin involvement was observed in all our patients. The muscular deficit was earlier and more pronounced in patients under 15 years. In our, vitiligo and lupus were associated pathologies. This disease is associated in 28-40% of cases or another connective neoplasia [3,11,12]. It can affect all organs. This generalization of the disease is made after 9 months on average [11]. These complications were rarer in our study and they occurred on average after 6 months. The low prevalence of lung damage and cancer in our study would be due to the fact some patients are lost and else are unable to realize all paraclinical examinations. In Senegal 30% of patients have lung disease and 10.7% cancer associated to disease [5] . In Guadeloupe one case of cancer was discovered in 12 years [6]. Amyopathic dermatomyositis (ADM) is characterized by the presence of dermatomyositis (DM) for 6 months or more in individuals who have normal muscle enzymes and no clinically significant muscle weakness [13]. In our series we had 16.67% of patient with Amyopathic dermatomyositis. In following up these patients developed myopathy which explains the 100% muscular affected in our study. Fever was associated in 45.83% of cases. This high prevalence was most frequently due to Malaria in our context. muscle biopsy did not contribute to the diagnosis in 12.5% of cases. This could be explained by the late appearance of muscle weakness [14]. Laboratory tests showed abnormal elevated muscle enzymes: LDH were very high in all our patients and the aldolases. Furthermore, we observed a normal CK levels in 12.5% of cases. In dermatomyositis, specific antibodies have little diagnostic interest. They were rarely asked for our patients because they are less sensitive and very expensive in our country. Therapeutically, monotherapy with oral corticosteroids was instituted with 95,83% of our patients. It allowed a clear clinical improvement on average 4 months

after treatment. To minimize the adverse effects of this long-term corticosteroid and accelerate clinical cure some authors advocate of involving immunosuppressants or synthetic antimalarial drugs [3,14,15]. Only 8,33% of our patients have benefited in our series. Few patients were able to follow the treatment with immunosuppressants. Evolution is chronic (100% of cases) and polyphasic interspersed with remission and relapse has stopped or has lower doses of corticosteroids. An improvement under treatment was observed for most cases after six months (62,5% of cases). The death was observed in three cases or 12,5% of cases. In the literature, higher mortality rates have been reported with our 31-69% for MACHET et al. [14] in 2003, 47.8% for MARIE et al. [9] in 1999 and 70 to 80% for Benbassat et al., [2] in 1985. But this is for most cases, formation or association of cancer or the occurrence of systemic manifestations (cardiac and pulmonary) is common. This low death rate observed in our study may be explained by the absence of cancer association and rarity of systemic manifestations.

CONCLUSION

Dermatomyositis is a rare disease in Ivory Coast. It affects young adults with a slight male predominance. Cutaneous manifestations are the first sign in all patients. The increase in LDH and CPK then abnormalities traced EMG and skin histology are contributory to the diagnosis. The only corticosteroid therapy remains the most prescribed and the death rate was estimated at 6.25%.

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