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Lupus Erythematosus in Senegal: Study of 340 Cases

Diallo M*, Diatta BA, Diop A, Ndiaye MT, Ndiaye M, Seck B, Deh A, Diop K, Ly F and Niang SO

Department of Dermatology, Aristide LeDantec University Hospital, Dakar, Senegal

Abstract

Introduction: In Africa, an increase in the incidence of lupus erythematosus has been noted in recent years. Very few studies have been conducted on epidemiological and clinical aspects of this disease in sub-Saharan Africa. The purpose of this study was to report the epidemiological, clinical and evolutionary aspects of lupus disease in an African Black population.

Materials and methods: This was a retrospective cross-sectional study including all cases of lupus seen in two departments of Dermatology in Dakar from 1999 to 2015.

Results: Three hundred and forty cases were recorded, corresponding to a hospital frequency of 0.05%. The average age was 33 years. The sex ratio was 0.17. The various manifestations were: dermatological (89.4%), rheumatological (33.2%), cardiac (5.8%), renal (12%), respiratory (5.6%), neuropsychiatric (4.7%), digestive (2.6%), hematological (70%) and immunological (56.2%). Lupus was associated with antiphospholipid antibody syndrome (35%), dermatomyositis (26.3%), rheumatoid arthritis (17.5%) and scleroderma (21%). Patients were treated with corticosteroids (92%), immunosuppressive (12%) and synthetic antimalarial drugs (88.2%). A remission was noted in 80%. The complications were an infection (20.5%) and the occurrence of squamous cell carcinoma (0.8%). Death occurred in 2.6%.

Conclusion: Lupus erythematosus is a frequent condition in our regions and represents the first connective tissue disease in our department. Systemic lupus erythematosus is by far the most frequent form, followed by chronic lupus, while subacute lupus seems very rare. The disease is often severe with frequent visceral involvements. The prognosis is still poor in our regions due to the delayed diagnosis with frequent renal involvement and frequent infectious complications.

Keywords: Lupus erythematosus; Epidemiological aspects; Evolutionary aspects; Clinical aspects

Introduction

In Africa, an increase of the incidence of lupus erythematosus has been noted in recent years [1-3]. A higher severity of the disease has also been postulated in African population [2,4]. However, most of these assertions are based on studies conducted in Western countries, especially in African-American population [1,2,4]. Very few studies have been conducted on epidemiological and clinical aspects of this disease in sub-Saharan Africa [3-7]. The purpose of this study was to report the epidemiological, clinical and evolutionary aspects of lupus disease in an African black population.

Materials and Methodology

This was a retrospective cross-sectional study including all cases of lupus erythematosus seen in two departments of Dermatology of Dakar from 1999 to 2015. The medical records of patients meeting the diagnostic criteria of the American College of Rheumatology were reviewed. The data was collected and analysed using Sphinx Demo and SPSS 13.0 software.

Results

We collected 340 patients with lupus erythematosus corresponding to a hospital frequency of 0.05%. Lupus represented the first connective tissue disease in our departments. The mean age was 33 years (5-70 years), with a sex ratio of 0.17 (290 women-50 men). The average duration before consultation was 24 months (3 days-20 years). Skin lesions were inaugural in 89.4% (n=304). Opportunistic superficial fungal infections were the circumstances of discovery in 33% (n=112). Clinical forms were a systemic acute lupus erythematosus in 80% (n=272), a chronic discoid lupus in 15.6% (n=53) and a subacute lupus in 4.4% (n=15). In patients with acute systemic lupus, elementary lesions were acute in 40% (n=109), subacute in 8.8% (n=24), chronic in 26% (n=71) and combined in the same patient in 25% (n=68). Acute lesions consisted of specific signs (erythema on malar region, ears or trunk and mucosal erosions) and non-specific manifestations (purpura, Raynaud's syndrome, alopecia and bullae) (Figure 1).

The different types of acute lupus lesions are shown in Table 1. In chronic lupus (Figure 2), the primary lesions were discoid in 50.9% (n=27), verrucocous variant in 3.8% (n=2), vitiligoide in 28.3% (n=15)

Figure 1: Erythema on the face and the ear in systemic lupus.

***Corresponding author:** Dr. Moussa Diallo, Department of Dermatology, Aristide LeDantec University Hospital, Dakar, Dakar-Etoile, Senegal, Tel: 00 (221) 77 762 90 90; E-mail: moussante@hotmail.com

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and lupus panniculitis in 16.9% (n=9). The discoid lesions were found on the face in 2 cases, limbs and trunk in 14 cases and on the scalp with scarring alopecia in 11 cases. In subacute lupus, lesions were erythematous annular in 5 cases and psoriasiform in 10 patients (Figure 3). Extra-cutaneous manifestations were rheumatological in 33.2% (n=113), cardiac in 5.8% (n=20), renal in 12% (n=41), respiratory in 5.6% (n=19), neuropsychic in 4.7% (n=16), digestive in 2.6% (n=9), hematological in 70% (n=238) and immunological in 56.2% (n=191) (Table 2). Systemic lupus was associated with other autoimmune disease in 16.7% (n=57). This was anti-phospholipid syndrome (APS) in 35% (n=20), dermatomyositis in 26.3% (n=15), rheumatoid arthritis in 17.5% (n=10) and scleroderma in 21% (n=12). Oral corticosteroid therapy (prednisone) was used in 92% (n=313). Other treatments were immunosuppressive (cyclophosphamide, azathioprine) in 12% (n=41) and synthetic antimalarials in 88.2% (n=300).

The average follow-up period was 24 months (7 days to 18 years). Clinical remission was noted in 80% (n=272) and 33.2% (n=113) were lost to follow-up. Complications during treatment are listed in Table 3. Squamous cell carcinoma secondary to discoid lupus lesion was noted in 3 cases (Figure 4). Death occurred in 2.6% (n=9) was secondary to severe infections and renal involvements.

Discussion

We reported one of the largest series of lupus erythematosus in sub-Saharan Africa [3-7] (Table 4). Lupus is a frequent condition in our region and represents the first connective tissue disease in our department. This high frequency has been well reported in the African population and may be related to the great sun-exposure [1,2]. The disease seems to occur earlier in life in this population as evidenced by

Acute Lupus	n (%)
Erythema malar	54 (45)
Photosensitivity	56 (46.7)
Non-cicatricial alopecia	28 (23.3)
Oral erosions	27 (22.,5)
Purpura	15 (12.5)
Papular and bullous lesions	8 (6.7)
Skin ulceration	7 (5.8)
Raynaud's syndrome	7 (5.8)

Table 1: Cutaneous manifestations of systemic lupus erythematosus.

Figure 2: Discoid lesions on the scalp and lips in chronic lupus.

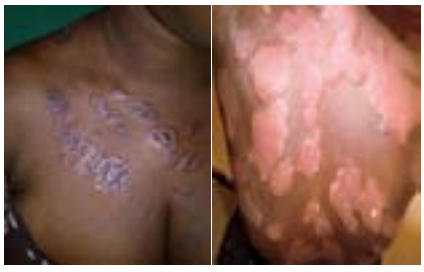

Figure 3: Subacute lupus with annular lesions on the trunk.

Extra- cutaneous manifestations	n (%)
Rhumatological	**113 (33.2)**
Arthritis	71 (20.8)
Arthralgia	28 (8.2)
Myalgia	14 (4.1)
Cardiac	**20 (5.9)**
High blood pressure	12 (3.5)
Pericardial effusion	5 (1.5)
Respiratory	**19 (5.6)**
Condensation syndrome	8 (2.3)
Pleurisy	11 (3.3)
Renal	16 (4.7)
Edema	**8 (2.3)**
Oliguria	2 (0.5)
Nephrotic Syndrome	5 (1.4)
Isolated proteinuria	1 (0.2)
Neuropsychiatric	**16 (4.7)**
Behavior disorder	11 (3.2)
Seizure	5 (1.5)
Digestive	**9 (2.6)**
Ascites	8 (2.6)
Abdominal pain	1 (0.2)
Spleen and ganglion	**6 (1.8)**
Lymphadenopathy	4 (1.2)
Splenomegaly	2 (0.6)
Hematological	**238 (70)**
Anemia	103 (30.2)
Leukopenia	51 (15)
Thrombocytopenia	25 (7.3)
Pancytopenia	49 (14.4)
Lymphopenia	10 (2.9)
Immunological	**191 (56.2)**
Antinuclear antibodies	40 (11.7)
Anti-native DNA	85 (25)
Anti sm antibodies	18 (5.3)
Anti RNP antibodies	15 (4.4)
Anti SSA/Ro antibodies	17 (5)
Anti SSB antibodies	2 (0.6)
Anti-phospholipid antibodies	14 (4.1)

Table 2: Extra-cutaneous manifestations of lupus.

Complications	n (%)
Relapse	**30 (8.8)**
Therapeutic rupture	20 (5.9)
Pregnancy	10 (2.9)
Infections	**70 (20.5)**
Fungal	13 (3.8)
Scabies	13 (3.8)
Urinary tract infection	4 (1.2)
Non-specific lung infections	4 (1.2)
Tuberculosis	4 (1.2)
Candida	2 (0.6)
Herpes zoster	1 (0.3)
Necrosis of the femoral head	**2 (0.6)**
Erosive gastritis	**3 (0.9)**

Table 3: Complications of lupus.

Figure 4: Squamous cell carcinoma occurred on discoid lesions of the lower lip.

Aspects	Our study (Senegal)	Iba (6) (Gabon)	Daboiko (7) (Ivory Coast)	Bija (7) (Cameroon)	Khanfir (10) (Tunisia)
Epidemiology					
Number of cases	340	37	49	39	781
Hospital prevalence (%)	0.05	0.14	0.4	-	-
Mean age (years)	33	32	35	39,2	30
Sex-ratio	0.17	0.06	0.04	0.08	0.15
Diagnostic delay (months)	24	17	13		15
Clinical, n (%)					
Dermatological	340 (100)	23 (62.2)	29 (59.2)	22 (55.4)	612 (81.7)
Rheumatologic	113 (33.2)	22 (59.4)	38 (77.5)	25 (64.1)	512 (24.8)
Cardiac	20 (5.9)	6 (16.2)	13 (26.5)	-	239 (31.9)
Respiratory	19 (5.6)	5 (13.5)	9 (18.4)	-	194 (26)
Renal	16 (4.7)	6 (16.2)	24 (49)	7 (17.9)	371 (49.5)
Neuropsychiatric	16 (4.7)	9 (24.3)	11 (22.4)	4 (10.3)	35 (4.7)
Lymphadenopathy	6 (1.8)	6 (16.2)	-	-	-
Evolution, n (%)					
Remission	272 (80)	31 (83.7)	29 (50.2)	27 (69.2)	258 (33.8)
Relapse	30 (8.8)	-	-	5 (12.8)	-
Infections	70 (20.5)	-	27 (55.1)	2(5.2)	355 (45.5)
Carcinoma	3 (0.8)	-	-	-	-
Death	9 (2.6)	2 (5.4)	11 (22.4)	2 (5.2)	56 (7.2)
Loss of follow-up	113 (33)	6 (16.2)	20 (40.8)	-	-

Table 4: Comparison of epidemiological, clinical and evolutionary aspects of lupus erythematosus in different African series.

the young age of our patients. We also find an increase in the incidence of lupus compared to previous studies in the same departments [3,4]. The increase in its frequency may be related to an improvement in the diagnosis and a better access of the population to consultants in Dermatology. Despite this, there is still an important delay for the diagnosis which is about 24 months and seems to be related to the low socio-economic status of patients, poor education and illiteracy. This long consultation period is also observed in many others African studies [5-7]. Cutaneous manifestations represented the most frequent circumstance of discovery because of their unaesthetic and stigmatizing character. By usually, preceding the other lupus lesions, these manifestations often represent the first clue of diagnosis. Among these skin lesions, opportunistic superficial fungal infections were common. Indeed, infections in general and especially superficial fungal infections are frequently due to the immunosuppression induced by lupus [2,4,8,9]. They can represent the main symptom when they are extensive, leading to the diagnosis of the underlying connective tissue disease but can be confused with erythematous and squamous lesions specific to lupus. In our region, connective tissue diseases are the most frequently concomitant diseases found in patients with extensive superficial fungal infections [9].

It has been reported that lupus erythematosus is more severe among Africans [2,4,5,10]. In our series, systemic lupus erythematosus was by far the most frequent form observed. Furthermore, there were severe forms of systemic lupus often associated with frequent and severe visceral involvements in particularly renal and neuropsychiatric. Lupus has become the first cause of acquired nephrotic syndrome in our tertiary hospital [11]. These particularities are also well documented in many other studies [2,3,5-7]. The association with other connective tissue diseases were also frequent, especially with the antiphospholipid syndrome.

However, contrary to Caucasians, subacute lupus is rarely seen in Africans. Infectious complications were frequent in our patients, in some cases with lethal sepsis. This may be favored by the delay in diagnosis. The occurrence of squamous cell carcinoma on discoid lesions has been rarely reported [12]. Solar exposure may play an additional role in the transformation of these discoid lesions [12]. The prognosis of lupus erythematosus is still poor in our regions with high mortality rate due to delayed diagnosis, the frequent discontinuation of treatments and loss of follow up, favored by the chronicity of the condition.

Conclusion

Lupus erythematosus is a frequent condition in our region where it represents the first connective tissue disease. The diagnosis is often delayed. The condition is usually severe with a clear predominance of systemic forms. Furthermore, there are severe forms of systemic lupus often associated with visceral and infectious complications. In contrast, subacute lupus erythematosus seems very rare in this population. In chronic lupus, transformation of discoid lesions into squamous cell carcinoma can occur. The prognosis is still poor due to the delayed diagnosis, the frequent discontinuation of treatments and loss of follow up favored by the chronicity of the condition.

Conflict of Interests

None

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