Profiles of Sjögren's syndrome in rheumatologic consultation in Guinea

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Abstract

Background: Sjögren Syndrome (SS) is a chronic autoimmune epithelitis, characterised by lymphocytic infiltration of the exocrine glands, mainly lacrimal and salivary. It is the second autoimmune disease after Rheumatoid Arthritis (RA). This connectivitis has not been studied extensively in sub-Saharan Africa.
Objective: To determine the epidemiological, clinical, paraclinical and therapeutic characteristics of SS in Guinea.
Design: Descriptive cross-sectional study.
Methods: The study involved all hospitalised and/or consulted patients in the Rheumatology Department of the Ignace Deen National Hospital, Conakry, Guinea from 1st March 2019 to 31st August 2020. Patients with Sjogren's syndrome meeting the 2002 AECG criteria were included in the study. Patients were divided according to the presence of primary Sjögren's syndrome (SSp) or secondary Sjögren's syndrome (SSs).
Results: Thirty-one patients recruited, who included 27 (87.1%) women, for a hospital prevalence of 3.9%. The middle age was 53.2 ± 14.6 years. The average diagnostic delay of SS was 6 ± 3.1 years. Clinic manifestations were dominated by ocular and oral sicca syndrome (100%), and arthralgia (77.4%). Neither renal involvement nor cutaneous vasculitis was noted in this study. However, one case of lymphomatous transformation was reported during regular follow-up. The immunological profile showed SSA-positive antibodies in 19.4% of cases and SSB-positive antibodies in 32.3% of cases. Schirmer's test was positive in 15 (48.4% patients. Labial Salivary Gland Biopsy (LSGB) was contributive in 17 (54.8%) patients, of which eight were at stage 3 of Chisholm and Mason (25.8%) and nine were at stage 4 of Chisholm and Mason (29.0%). SSp was diagnosed in 38.7% of patients against 61.3% with SSs, mainly in a context of RA (78.9%). Therapeutically, all patients received hydroxychloroquine and 74.2% of patients were treated by methotrexate. The ESSPRI score at admission showed unbearable symptoms in most patients and the ESSDAI score showed moderate disease activity in 38.5% of cases.
Conclusion: Sjögren Syndrome (SS) was frequent in hospital consultations and dominated by secondary SS. More detailed studies would make it possible to better describe all aspects.

Key words: Sjögren syndrome, Connectivitis, ESSPRI, ESSDAI, Sub-Saharan Africa, Guinea

Introduction

Sjögren Syndrome (SS) is a chronic connective tissue disease in which we observe progressive and irreversible damage to the exocrine glands, mainly the salivary and lachrymal glands[1]. It is, after Rheumatoid Arthritis (RA), the second most common autoimmune disease with an estimated frequency between 0.3 to 5%[2]. SS can present in two forms: it is classified as primary Sjögren syndrome (SSp) when it is isolated, and secondary Sjögren syndrome (SSs) when it is associated with another autoimmune disease[3,4]. SS has a strong female propensity with a sex ratio of 9F / 1H and a peak frequency estimated around 50[1, 2]. SS is accompanied by the expression of autoantibodies. Anti-SSA/Ro and anti-SSB/La antibodies play a role in the diagnosis of the disease and in predicting of their outcomes[5]. Patients with isolated anti-SSB antibodies are reported to have a relatively low frequency of the most severe organ

damage[6]. Treatment is primarily aimed at reducing symptoms and avoiding complications[7]. Systemic treatment is only used in cases of extra-glandular involvement[8,9]. New guidelines have been developed by the European League Against Rheumatism (EULAR) for the management of local and systemic manifestations[10]. Studies in sub-Saharan Africa reported low prevalence of Sjögren's syndrome with 2.4% in Burkina Faso [11] and 4.4% in Senegal[12]. The objective of this study was to determine the prevalence of Sjögren's syndrome in Conakry, Guinea.

Materials and methods

This was a descriptive cross-sectional study over 18 months, from November 1st, 2017 to May 31st, 2019. The study involved all hospitalised and/or consulted patients in the Department of Rheumatology of the Ignace Deen National Hospital in Conakry, Guinea, diagnosed with primary or secondary Sjögren's Syndrome meeting the criteria of the American European Consensus Group (AECG) of 2002[5]. The data collected were:

(i) Epidemiological (age, sex, diagnostic delay, medical history).
(ii) Clinical (fatigue, xerostomia, xerophtalmia, arthritis, arthralgia, saprodontia, dysguesia, neurological involvement).
(iii) Paraclinical including biological features (Erythrocyte sedimentation rate, C reactive protein, serum protein electrophoresis, complete blood count, rheumatoid factor, Ro/SSA, La/SSB antibodies, anti-CCP, Schirmer test). The labial salivary gland biopsy specified the degree of salivary gland infiltration (Grade 3 or 4 of Chisholm and Mason scoring system).
(iv) *Therapeutic:* Hygiene and dietary measures, symptomatic and background treatment.
(v) *Evolutionary*: The disease activity was evaluated by the ESSDAI (Eular Sjögren Syndrome Disease Activity Index). The functional impact was assessed by the ESSPRI (Eular Sjögren's Syndrome Patient Reported Index). For ESSDAI, a score of 0 indicated remission, a score between 1 to 4 (inclusive) indicated low activity, a score between 5 to 13 (inclusive) indicated moderate activity and a score of 14 or more indicated high activity. For ESSPRI, we defined mild symptomatology for a score of 0 to 5 and unbearable symptomatology for a score of 6 to 10.

The data were analysed with Epi Info 7.1.5.2. The results were expressed in number, frequency, median ± standard deviation and median.

Results

The study included 31 cases of SS out of 799 patients, for a hospital prevalence of 3.9%. Majority of patients were female (n=27, 87.1%) with a sex ratio of 6/1. The mean age was 53.2 ± 14.6 years. The average diagnostic delay was 6 ± 3.1 years (range 0.5 and 25 years). The main clinical manifestations are shown in Table 1. Secondary SS was associated to rheumatoid arthritis (n=15, 78.9%), systemic lupus erythematosus (n=2, 10.5%), Biermer's disease (n=1, 5.3%) and leucoderma (n=1, 5.3%). Xerophthalmia, xerostomia and joint involvement (arthritis and arthralgia) were observed in all our patients. Fatigue was almost constant (90.3%). Four patients presented a peripheral neurological involvement. Neither renal involvement nor cutaneous vasculitis was noted. However, a case of lymphomatous transformation was reported during regular follow-up.

Table 1: Clinical characteristics of patients suffering from Sjögren's syndrome

	No.	(%)
Medical history		
High blood pressure	8	25.8
Family history of rheumatic disease	6	19.4
Diabetes	4	12.9
Renal failure	2	6.5
Clinical features		
Xerostomia	31	100
Xerophthalmia	31	100
Fatigue	28	90.3
Arthralgia	24	77.4
Saprodontia	21	67.8
Arthritis	7	22.6
Dysguesia	7	22.6
Neurological involvement	4	16.1
Types of Sjögren's syndrome		
Primary Sjögren's syndrome	12	38.7
Secondary Sjögren's syndrome	19	61.3

Inflammation blood test was positive with an accelerated ESR (80.6%), a positive CRP (67.6%) and hypergammaglobulinemia (25.8%). Immunological features were also positive: RF (58.1%), anti-CCP (29.0%), Ro/SSA antibodies (19.4%) and La/SSB antibodies (32.3%). Fifteen patients had a positive Schirmer test (48.4%). The labial salivary gland biopsy was contributive to the diagnosis for 17 patients (54.9%) with 8 at grade 3 (25.8%) and 9 at grade 4 (29.0%) from Chisholm and Mason scoring system. These main paraclinical features are shown in Table 2.

Table 2: Paraclinical characteristics of patients with Sjögren's syndrome

	No.	(%)
ESR accelerated	25	80.6
CRP positive	21	67.8
Anaemia	19	61.3
Schirmer's test positive	15	48.4
Polyclonal hypergammaglobulinemia	8	25.8
Hyperleukocytosis	6	19.3
Immunology		
Rheumatoid factor positive	18	58.1
La/SSB positive	10	32.3
Anti-CCP positive	10	29.0
Ro/SSA positive	6	19.4
Labial salivary gland biopsy		
Grade 3	8	25.8
Grade 4	9	29.0

ESR: Erythrocyte Sedimentation Rate; CRP: C Reactive Protein; Anti-CCP: anti-Cyclical Citrullinated Peptide

Hygiene and dietary measures were prescribed for 38.7% of patients (sufficient hydration, regular dental hygiene and control, non-cariogenic diet). Most patients were treated with DMARDs, in particular hydroxychloroquine (100%) and methotrexate (74.2%), while 67.7% of patients received oral route and / or local corticosteroids either as monotherapy or in association with DMARDs. None of the patients received biotherapy due to its unavailability in our region. The outcome of the treatment was considered favorable for the majority of our patients. However there was a case of death. The majority of our patients had a favourable evolution under treatment. There was one case of death. These results are shown in Table 3.

Table 3: Treatment and evolution of patients suffering of Sjögren's syndrome

	No.	(%)
Hydroxychloroquine	31	100
Methotrexate	23	74.2
Oral and local corticosteroids	21	67.7
Hygiene and dietary measures	12	38.7
Analgesics	10	36.3
Evolving modalities		
Stabilization	26	83.9
Relapse	4	12.9
Complication	1	3.2

The ESSPRI score at admission showed unbearable symptomatology in most patients (Table 4) and the ESSDAI score showed moderate disease activity in 38.5% of cases (Table 5).

Table 4: ESSDAI features outcome measures in patients with Sjögren's syndrome

	Median	Standard deviation
Dryness		
[0 – 5]	2.4	± 1.8
[6 – 10]	6.5	± 0.7
Fatigue		
[0 – 5]	4.5	± 0.7
[6 – 10]	7.8	± 1.3
Pain		
[0 – 5]	2.5	± 2.1
[6 – 10]	7.6	± 1.1

Table 5: ESSDAI results in patients with patients with primary Sjögren's syndrome

	No	(%)
Remission	3	23,1
Low activity	4	30,7
Moderate activity	5	38,5
High activity	1	7,7

Median: 5.3 ± 5.6
Range: 0 and 19

Discussion

The study reported 31 cases of SS over a period of 18 months. Despite some methodological bias linked to the small sample, the hospital-based study and the under-equipped laboratories, it appears that Sjögren's syndrome represents a relatively low number of consultation in our series (3.9%) which is lower to the literature reported [12,14]. This relative rarity could be explained in our context by a lack of knowledge of this pathology due to the lack of specialists (internists, rheumatologists, etc.) and the difficult access to diagnostic means, particularly immunological, which are expensive for the population. The mean age (53.16 ± 14.6 years) was similar to those of Diallo *et al*[12] in Senegal (50 years old) and Rihani *et al*[15] in Morocco (48 years old). It differs from the data reported in France[16] where the mean age was 65 years. This relative youthfulness in African studies only reflects the general demography of developing countries. The female predominance in this study (n=27, 87.1%) is classic in SS as noted in African and Western studies [12,16-18] and could be explained by a hormonal involvement. However, this predominance attenuates at the older ages with an equal number of cases between men and women[4].

A long average diagnostic delay was also reported in Algeria[19] (7.5 ± 5.1 years) and in Senegal[12] (7 years). It could be the result of various factors including the delay in the consultation, the lack of knowledge of the disease by some practitioners, a limited technical platform. As noted in the study, the data collected in France[16] and in Senegal[12] showed a high frequency of sicca syndrome followed by articular involvement. The salivary and lachrymal glands are the main target of SS[4] and the joints are often involved in the extra-glandular manifestations of SS[20,21]. The frequent association between SS and rheumatoid arthritis (78.9%) is common[15,22,23]. Although lower than in the literature[15,24,25], the Schirmer test was positive in 48.4%. It remains the major diagnostic tool for dry eye. The results of the LGSB were lower than those found in 2020 in Senegal[14]. This could be explained by the fact that in that study, LGSB was more accessible as it was performed in the same hospital. Immunologically, autoantibodies were not systematically requested due to their high cost. The results found were inferior to those from Tunisia[26]. The use of low-dose corticosteroids for symptomatic treatment was justified by the high frequency of joint involvement in the study and corroborated the data of Benasr *et al*[27], where 100% of their patients received symptomatic treatment, including 63.5% of corticosteroids. Hydroxychloroquine, as first line of background treatment, was administered in only 18% of cases in the Moroccan study[15]. This difference may be due to the fact that hydroxychloroquine, which is more accessible in our context, allows the management of a wide range of extra-glandular manifestations and is preferred to methotrexate in women with a desire to have children. Contraception was a measure that was not adhered to by patients. The mean ESSPRI score is consistent with the Spanish data[28]. The use of this score as a predictor of health[29] and the ESSDAI score to assess systemic SS activity[30] highlighted the consequences of delay in consultation and delay in diagnosis.

Conclusion

Sjögren Syndrome (SS) was common in hospital consultations and dominated by secondary SS. The significant diagnostic delay underlines the need to sensitize practitioners in order to improve the prognosis of this condition. Larger cohort studies would give a better picture of this disease in Guinea.

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