Ocular manifestations in chronic inflammatory rheumatism

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Abstract

Objective: To contribute to the study of the characteristics of Chronic Inflammatory Rheumatism (RIC) in Guinea.
Design: Cross-sectional study.
Methods: The study was carried out over a period of nine months on patients with chronic inflammatory rheumatism and the ocular manifestations.
Results: The study population consisted of 28 patients including 10 men and 18 women, the mean age was 39.07 ± 16.04 years. The different types of rheumatism encountered were: rheumatoid arthritis (n=18), ankylosing spondylitis (n=8) systemic lupus erythematosus (n=1), juvenile idiopathic arthritis (n=1). All patients presented with ocular manifestations (100%): sicca syndrome (n=24), allergic conjunctivitis (n=5), ametropia (n=5), cataract (n=3), anterior uveitis (n=3), episcleritis (n=1), keratitis (n=1) and glaucoma (n=1).
Conclusion: Ocular manifestations during inflammatory rheumatism are frequent, the sicca syndrome was dominant.

Key words: Guinea, Inflammatory rheumatism, Ocular manifestations

Introduction

Chronic Inflammatory Rheumatism (RIC) are systemic diseases with articular and extra-articular manifestations, including ocular damage sometimes affecting all segments of the eye. Thus, the rheumatological history must be researched, regardless of the reason for ophthalmology consultation[1]. RICs can be autoimmune (rheumatoid arthritis, certain forms of juvenile idiopathic arthritis) or even autoinflammatory (spondyloarthritis: of which ankylosing spondylitis (APS) is the most frequent, juvenile spondylarthritis, rheumatism of enterocolopathies, psoriatic arthritis[2]. Ocular manifestations may exist during the course of these rheumatisms: frequent ocular manifestations have been reported in the course of Gougérot-Sjögren Syndrome (SGS) in 15% of RA[3]. Spondyloarthritis is the cause of uveitis. Inflammatory ophthalmologic lesions of rheumatoid arthritis are represented by keratitis, scleritis and episcleritis, which most often occur in old polyarthritis, which is often nodular and often seropositive[4]. Lars can be directly linked to the disease, but they can be the consequence of the therapies used. Hydroxychloroquine and methotrexate, widely used in the disease-modifying treatment of ICR are implicated in the occurrence of ocular symptoms and require ophthalmologic monitoring[5]. Several African studies have shown the importance of ocular involvement during RIC, particularly that of Sangha[6] in Ivory Coast who reported in 2014 a frequency of 37.5% (9/24) of ocular involvement in rheumatoid arthritis. In Guinea, no study has been carried out on this subject in our knowledge. Knowledge of these manifestations and the lack of previous studies motivated the realization of this study, the objective of which was to contribute to the study of the characteristics of RICs in Guinea.

Materials and methods

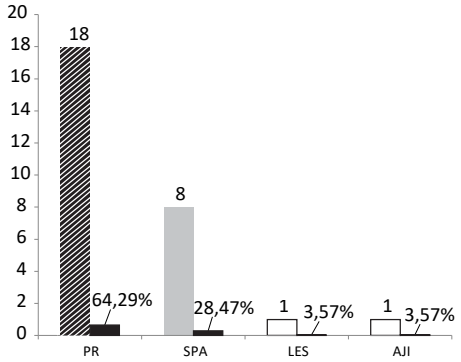
This was a cross-sectional study that lasted nine months, conducted in the Rheumatology Department of the Ignace Deen National Hospital and the Ophthalmology Department of the Armed Forces Medical and Surgical Center. This was a descriptive cross-sectional study of patients with chronic inflammatory rheumatism. The patients were randomly selected with ophthalmologic symptoms. This study was carried out from 1st February to 31st October 2017 and included patients with RIC confirmed by a rheumatologist and meeting the study criteria: rheumatoid arthritis (ACR / EULAR 2010 criterion), ankylosing spondylitis (Amor's criteria 1995), systemic lupus erythematosus (Petri 2012), juvenile idiopathic arthritis (ILAR criteria). Patients with other forms of rheumatism and those with other diseases with ocular involvement and patients who missed the ophthalmologic examination were excluded. We took into account the unconstrained informed consent of patients. The study was done in accordance with the Helsinki declaration on ethical principles. They had all

carried out a complete ophthalmologic examination including: measurement of visual acuity from far and near, the examination with the slit lamp, the fundus, break up time, Schirmer's test. 1-distance visual acuity was measured using the <<letter MONOYER >> scale for patients who could read and the SNELLEN <<E>> scale for patients who were unable to read and near visual acuity measured with the Parineau scale for those who could read and the Rosano scale for patients who could not read. The average being 10 / 10th. (i) Visual acuity is lowered or has an abnormality only when it is less than 10/10. (ii) The slit lamp examination allowed the examination of the appendages (conjunctiva, eyelashes, eyelids and eyebrows) and of the anterior segment (cornea, anterior chamber, iris, pupil, lens and anterior vitreous). (iii) The fundus examination was performed after complete pupillary dilation obtained after instillation of mydriaticum and neosynephrine either directly through the ophthalmoscope. (iv) Break-up time: This is the test most frequently performed by the practitioner due to its speed of execution and its simplicity. (v) Schirmer's test: This involves instilling a small amount of fluorescein in the butt of eye bag. We were interested in epidemiological data and the main ocular manifestations. Data analysis was carried out using Epi info 7.0.2.1.

Results

During the study period, ocular manifestations were observed in 28 cases of RIC. The workforce consisted of 18 women (64.29%) and 10 men (35.71%), for a sex ratio of 0.55. The mean age was 39.07 ± 16.04 years (range: 15 and 73 years). The different types of rheumatism encountered were: rheumatoid arthritis (n = 18), ankylosing spondylitis (n = 8), systemic lupus erythematosus (n = 1), juvenile idiopathic arthritis (n = 1) (Figure 1). Patients presented with abnormal visual acuity and manifestations on slit lamp examination, Schirmer's test, break up time. These ocular manifestations found are identifiable in Table 1.

Figure 1: Distribution of patients by type of RIC



RA=Rheumatoid Arthritis; AS=Ankylosing Spondylitis; SLE=Systemic Lupus Erythematosus; JIA=Juvenile Idiopathic Arthritis

Table 1: Distribution of patients according to the ophthalmologic examination

Ophthamologic examination	Workforce	(%)
Visual acuity normal	19	67.86
Lowered slit lamp exam	9	32.14
Normal	7	25.00
Appendices ⟶ Conjunctival irritation	18	64.29
Anterior segment *⟶ Opalescence of the lens	3	10.71
BUT		
Positive ≥ 15 s	24	85.71
Negative ≤ 15 s	5	14.29
Schirmer test		
Positive	27	96.43
Negative	1	3.57
Fundus		
Normal	26	92.86
Papillary	1	3.57
Optic atrophy	1	3.57

All patients presented with ocular manifestations (100%): sicca syndrome (85.71%), conjunctivitis allergic (17.86%), ametropia (17.86%), cataract (10.71%), anterior uveitis (10.71%), episcleritis (3.57%), keratitis (3.57%) and glaucoma (3.57%) (Table 2).

Table 2: Distribution of patients according to ophthalmologic diagnosis

Diagnosis	Number of cases	(%)
Ametropia	5	17.86
Cataract	3	10.71
Allergic conjunctivitis	5	17.86
Episcleritis	1	3.57
Glaucoma chronic	1	3.57
Superficial punctate keratis	1	3.57
Dry eye syndrome	24	85.71
Chronic anterior uveitis	3	10.71

Table 3: Distribution of patients according to rheumatologic diagnosis and ophthalmologic diagnosis

	RA		AS		JIA		SLE	
Diag Ophthalmo.	No.	(%)	No.	(%)	No.	(%)	No.	(%)
Ametropia	3	10.71	1	3.57	0	0.00	0	0.00
Cataract	2	7.14	1	3.57	0	0.00	0	0.00
Allergic conjunctivitis	4	14.29	0	0.00	1	3.57	0	0.00
Episcleritis	0	0.00	1	3.57	0	0.00	0	0.00
Chronic glaucoma	1	3.57	0	0.00	0	0.00	0	0.00
Superf point keratis	1	3.57	0	0.00	0	0.00	0	0.00
Dry eye	15	53.57	8	28.57	0	0.0	1	0.57
Anterior uveitis	1	3.57	2	7.14	0	0.00	0	0.00

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Of the patients with rheumatoid arthritis, 15 had dry eyes, or 53.57% (Table 3). Artificial tears, antiseptic eye drops, and antibiotic eye drops were the most prescribed with 81.71% and 71.43% of cases, respectively. Glasses were recommended to 4 patients (14.29%) (Table 4).

Table 4: Distribution of patients according to ophthalmologic treatment

Treatment	Number of cases	(%)
Artificial tears	24	81.71
Antibiotic eye drops	20	71.43
Antiseptic eye drops	20	71.43
Glasses	4	14.29
Automatic refraction	1	3.57

Discussion

This study focused on patients with chronic inflammatory rheumatism whose ocular manifestations was studied. In our series the patients were relatively young (mean age = 39.07 years). The results were lower than that reported by Singwe-Ngandeu *et al*[7] in Cameroon (52.7 ± 5.3 years). The female predominance found in our patients could be explained by the frequency of rheumatoid arthritis which affects more women according to the literature. Polyarthritis was common with 64.29% of cases. The mean duration of development of chronic inflammatory rheumatism study was 6.44 years with a long mean consultation time (4.19 years). This period is longer than that reported by Diouf[8] in Senegal (3.7 years). This long delay in our series would be due to socio-cultural factors (the doctor is sometimes after the marabouts and traditional therapists) and socio-economic (the poverty of the populations and the remoteness of the centers of competence, delaying diagnosis as well as management). Pain is a major symptom but in chronic inflammatory rheumatism its management is rarely independent of that of their inflammatory component. The choice of the treatment depended on the type of chronic inflammatory rheumatism mode presentation, its evolutionary stage and prognostic factors. Methotrexate, glucocorticoid and hydroxychloroquine combination was the most prescribed disease-modifying treatment. In Africa, these classic background treatments are used[9]. This would be linked to the inaccessibility of the cost of biotherapies. Regarding ocular manifestations according to some authors, dry eye syndrome is a disorder common to chronic inflammatory rheumatism. According to the literature, its prevalence varies between 17.6% and 85%. Cases of anterior uveitis have been observed in patients with AS (35.50%). Among the patients with rheumatoid arthritis (53.57%) had dry eyes. Artificial tears, antiseptic eye drops, and antibiotic eye drops were the most prescribed with 81.71% and 71.43% of cases, respectively. Glasses were recommended in 4 (14.29%) patients.

All of these patients were on anterior background treatment, uveitis is often associated with SPA and appears to be the predominant ocular manifestation in this form of chronic inflammatory rheumatism[10,11]. At an early stage, the manifestation of retinal toxicity to synthetic antimalarials is reversible. The risks of retinal toxicity are related to the dose (greater than 6.5 mg / kg / day), the dose and the duration of treatment. In a study of 526 patients, Mavrikakis *et al*[12] reported that an absence of retinal toxicity was noted during the first six years of treatment with hydroxychloroquine.

Conclusion

This study has shown that during chronic inflammatory rheumatism, ocular manifestations are frequent hence the need for the rheumatologist to look for these extra-articular manifestations as part of multidisciplinary management involving an ophthalmologist.

Conflict of interest: None to declare.

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