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Short Communication

Lupus Retinopathy: New Data from Latin America

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Lupus retinopathy (LR) is a clinical presentation of systemic lupus erythematosus (SLE) in the visual system, which is closely associated with inflammatory activity of the SLE and may lead to irreversible visual loss. Its pathophysiology is believed to be mainly linked to the deposition of immune complexes in the retinal microvasculature leading to vascular occlusions, microinfarcts and retinal vasculitis.

LR prevalence and associated factors are well defined in some parts of the world [1-3]. However, these data are not known in Latin America, including Brazil. Systemic Lupus Erythematous (SLE) has distinct features in Latin America when compared with other countries [4]. It is not known if these different characteristics could influence the occurrence of LR. Thus, it is important to describe relevant clinical demographic data of LR in these patients, especially because there is an association between LR and a higher mortality of SLE patients [5].

We performed cross-sectional clinical laboratory evaluation of patients with SLE at the Clementino Fraga Filho Hospital of Federal University of Rio de Janeiro, Brazil. Our purpose was to verify the prevalence and associated clinical-demographic characteristics of LR among SLE patients and compare with data obtained in other different regions of the world.

In total, 102 SLE patients were enrolled in this study and underwent fundoscopy. The study was approved by the Ethics Committee of the Hospital of the Federal University of Rio de Janeiro, Brazil. Informed consent was provided from all participants.

Two groups of SLE patients were formed: patients with LR (n = 5, group 1) versus patients without LR (n = 97, group 2). The sex, race, age, medications, disease duration, Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), Erythrocyte Sedimentation Rate (ESR), C Reactive Protein (CRP), anti-dsDNA and platelet count were evaluated. The LR was defined according to its main forms of presentation: lupic microangiopathy, vascular occlusions, vasculitis, hypertensive retinopathy associated with lupus nephritis and autoimmune retinopathy [6,7]. Specifically, cotton wool spots, retinal hemorrhages, vasculitis, vascular occlusions, serous retinal detachment or hard exudates (except in case of diabetes mellitus or essential arterial hypertension) were considered LR manifestations. The main manifestations of RL in group 1 were lupic microangiopathy (n = 3), hypertensive retinopathy associated to active lupic nephritis (n = 1) and central retinal artery occlusion with cilioretinal artery sparing (n = 1, figure 1). Four patients had no ophthalmic complaints, however LR characterized by vascular occlusion resulted in permanent vision loss.

Statistical analysis were performed using Package for the Social Sciences (SPSS, IBM SPSS Statistics, version 21, Chicago, Illinois, USA). The differences between groups 1 and 2 were evaluated by Pearson's χ^2 or Fisher's exact test if the expected value in each cell was less than 5. Significance level was set at $P \leq 0.05$.

The prevalence of LR in the present study was 4,9%.

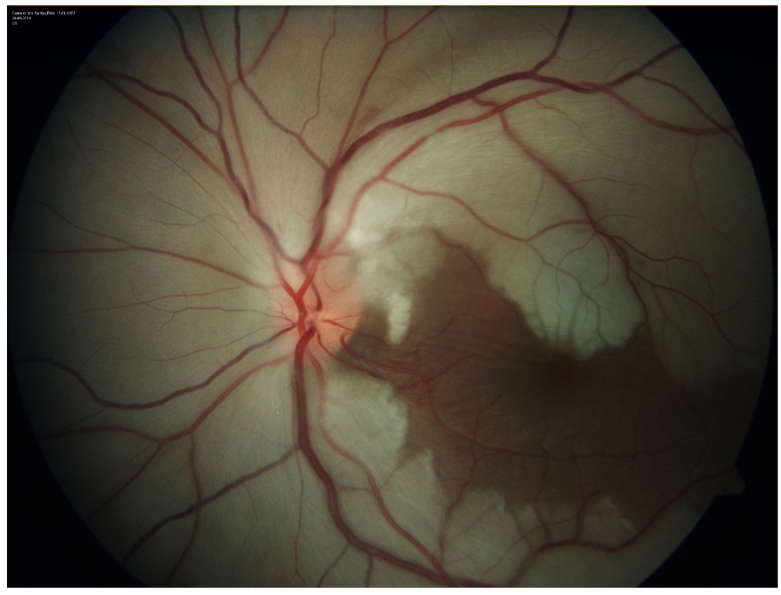

Figure 1: *Lupus retinopathy - central retinal artery occlusion with cilioretinal artery sparing, resulting in retinal whitening, sparing the macular region.*

There was no association between LR and age (p = 0,89), sex (p = 0,44), race (p = 0,10), disease duration (p = 0,49), ESR (p = 0,20), CRP (p = 0,17), anti-dsDNA (p = 0,49) and platelet count (p = 0,72) (Table 1).

Clinical demographic data	**Group 1 (n = 5)**	**Group 2 (n = 97)**	**P value**
Age, yr, mean (SD)	36,8 (14,28)	37,64 (14,42)	P = 0,89
Female n (%)	4 (80)	87 (89,69)	P = 0,44
Race n (%)			P = 0,10
White	0	34 (35,05)	
Non white	1 (20)	31 (31,95)	
Black	4 (80)	32 (32,98)	
Hospitalized, n (%)	4 (80)	21 (21,64)	P = 0,03
Disease duration, yr, mean (SD)	8,43 (6,97)	11,02 (8,31)	P = 0,49
SLEDAI, n, mean (SD)	21,6 (4,61)	4,08 (6,47)	P = 0,001
Current medications, n (%)			

Hydroxychloroquine, n (%)	4 (80)	77 (79,38)	P = 0,73
Prednisone, n (%)	5 (100)	52 (53,6)	P = 0,05
Methotrexate, n (%)	0	10 (10,3)	P = 0,59
Azathioprine, n (%)	1 (20)	20 (20,61)	P = 0,73
Mycophenolate, n (%)	0	37 (38,14)	P = 0,09
Immunosupressive drugs, n (%)	1 (20)	69 (71,13)	P = 0,012
ERS (n = 88)			
ERS, mean, (SD)	58,75 (24,71)	40,3 (28,13)	P = 0,20
CRP (n = 81)			
CRP, mean, (SD)	31,17 (42,73)	11,94 (26,17)	P = 0,17
Platelet count (n = 81)			
Platelet count, mean, (SD)	220,25 (117,57)	237,79 (95,55)	P = 0,72
Anti-dsDNA (n = 84)			
Positive anti-dsDNA, n (%)	02 (40)	30 (37,5)	P = 0,49

Table 1: *Clinical demographic data from SLE patients*

Erythrocyte Sedimentation Rate (ESR); Reactive C Protein (CRP); Systemic Lupus Erythematosus Disease Activity Index (SLEDAI); Immunosupressive drugs – 40 patients were in use of more than one medication.

Nevertheless, hospitalized patients, high disease activity indexes and those without immunosuppressive treatment were correlated with LR (p = 0,03, p = 0,001 and p = 0,012, respectively). A probably explanation of these results is that patients without immunosuppression treatment have an activity disease that leads to hospitalization. LR prevalence in our study was lower than other studies in different populations. However, our study had similar results regarding two clinical data: type of LR and disease activity [1-3].

LR is usually asymptomatic and without a routine fundoscopy, we believe that it is probably underestimated. These data from Brazil are useful to understand more about the characteristics and prognosis of SLE around the world. Further studies with a larger group of SLE patients in Latin America must be done. A multidisciplinary team including the ophthalmic examination is needed to a successful management of higher risk SLE patients, avoiding vision loss and premature mortality.

Conflict of Interest

The authors have no conflict of interest to declare.

Bibliography

1. Ushiyama O., *et al*. "Retinal disease in patients with systemic lupus erythematosus". *Annals of the Rheumatic Diseases* 59.9 (2000): 705-708.

2. Seth G., *et al*. "Lupus retinopathy: a marker of active systemic lupus erythematosus". *Rheumatology International* 38.8 (2018): 1495-1501.

3. Na Gao., *et al*. "Retinal Vasculopathy in patients with systemic lupus erythematosus". *Lupus* 26.11 (2017): 1182-1189.

4. Pons-Estel GJ., *et al*. "GLADEL: Lupus in Latin-American patients: lessons from the GLADEL cohort". *Lupus* 24.6 (2015): 536-545.

5. FJ Stafford-Brady., *et al*. "Lupus retinopathy. Patterns, associations, and prognosis". *Arthritis and Rheumatology* 31.9 (1988): 1105-1110.

6. Preble JM., *et al*. "Ocular involvement in systemic lupus erythematosus". *Current Opinion in Ophthalmology* 26.6 (2015): 540-545.

7. Cao X., *et al*. "Autoimmune retinopathy in systemic lupus erythematosus: histopathologic features". *Open Ophthalmology Journal* 3 (2009): 20-25.

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