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Ocular manifestations in systemic lupus erythematosus in tertiary care centre of Jharkhand

Dibya Prabha[1*], Yuvraj Lahre[2], Lily Kumari[3], Pawan Kumar[4]
[1] Senior Resident, Department of Ophthalmology, PMCH, Dhanbad, Jharkhand, India
[2] Senior Resident, Department of Medicine, MGM Medical College and Hospital, Jamshedpur, Jharkhand, India
[3] Senior Resident, Department of Medicine, PMCH, Dhanbad, Jharkhand, India
[4] Senior Resident, Department of Medicine, Dumka Medical College and Hospital, Dumka, Jharkhand, India

Abstract
Purpose: To study the prevalence of ocular manifestations in systemic lupus erythematosus (SLE) patients either related to disease or due to administration of potentially toxic drugs.
Materials and methods: This was a retrospective observational study includes 49 patients of SLE during June 2018 to January 2020. Detailed ocular examinations were done in all patients.
Results: Ocular involvement was seen in 23 patients (46.93%). 14/23 patients (64.28%) had more than a single ocular findings. Most common ocular findings was keratoconjunctivitis sicca followed by reduced visual acuity, scleral changes, conjunctivitis, corneal involvement, episcleritis, cataract, glaucoma, retinopathy respectively.
Conclusion: We found significant number of patients of SLE complaining about ophthalmologic disturbances. Early diagnosis and treatment of disease provide reduction in visual morbidity and mortality.

Keywords: Systemic lupus erythematosus, ocular findings, keratoconjunctvitis sicca

Introduction
Systemic lupus erythematosus (SLE) is chronic, autoimmune, multisystemic inflammatory disease characterized by a variety of clinical manifestations [1]. Ocular involvement is very frequent in SLE. It may be due to several mechanism including immune complex deposition in the basement membrane of endothelial cells of the small blood vessels [2]. Ocular complications have been reported in upto one-third of patients with SLE [3]. SLE can affect almost all ocular and adnexal structures [4], which causes various clinical manifestations, most of them have good prognosis, but some may be potentially serious leading to irreversible blindness [5]. In addition to ophthalmologic changes of SLE, drugs used for systemic treatment of the disease are potentially harmful to the eye. Corticosteroids causes cataract and glaucoma, while antimalarials can cause retinal toxicity, reversible pigmentary alteration of the macula [4].
Diagnosis of SLE is based on American college of Rhematology an classification criterion which requires that presence of 4 of the 11 features listed below during course of disease. The criteria include 1. Malar rash 2. discoid rash, 3. Skin photosensitivity, 4. Oral ulcers, 5. Nonerosive arthritis, 6. Serositis, 7. Neurological disorder, 8. Haematological disorder, 9. Immunological disorder, 10. Renal involvement, 11. Positive antinuclear antibodies (6).
Ocular involvement is not much studied among SLE patients although it affects majority of patients. So our aim is study the prevalence of ocular manifestations in SLE patients either related to disease or due to administration of potentially toxic drugs.

Materials and methods
This descriptive cross-sectional study was performed to evaluate the spectrum of ocular manifestations in SLE patients between June 2018 to Janurary 2020. 49 patients of SLE were included in this study after informed consent. Detailed history were taken which comprises : gender, age, duration of disease, presence of disease activity at the time of examination, use of corticosteroids and / or antimalarial drugs during the course of the disease and presence of ophthalmic symptoms. Ophthalmologic examination consisted of following: Visual acuity measurement using Snellen's chart, colour vision using Ishihara chart, Slit-lamp examination, applanation tonometry, Tear film evaluation (Tear film break up time, Schirmer test), Flourescein staining, Posterior segment evaluation done with indirect ophthalmoscope and 20D lens and fundus photography was taken using fundus camera.

Results
Demographic data: Out of 49 patients, 44 (83.67%) were female and 5(10.20%) were male [Figure1]. Mean age of presentation were 28.25 ±9.44 (range 15 to 64 years) [Figure 2]. Mean time of diagnosed disease was 6.57±2.60, ranging from 1 to 11 years.

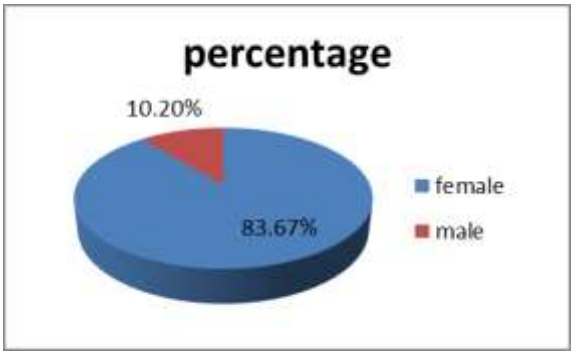

Fig 1: Showing sex distribution

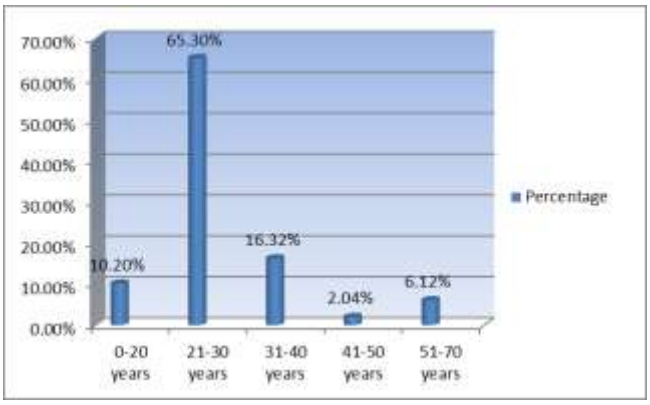

Fig 2: Showing age distribution

In our study we noted that majority of patients (53.06%) maintain their vision 20/30- 20/60, while 32.65% had 20/20, only 14.28% patients had their visual acuity 20/60[Figure3].

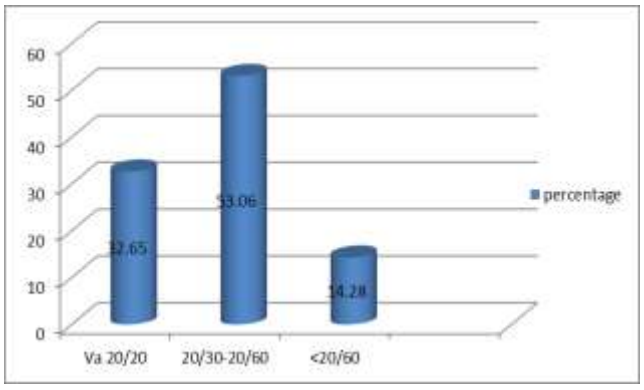

Fig 3: Showing visual acuity of patients

In our study we found ocular manifestations in 46.93% patients. Among ocular findings, keratoconjuctivitis sicca (KCS) was most commonly seen in 24.48% patients, other anterior segment manifestations were conjunctivitis (2.04%), episcleritis and KCS (2.04%), keratitis and KCS (6.12%), uveitis (4.08%), cataract (4.08%), glaucoma (2.04%), none of them were showing eyelid manifestation. Retinopathy was noted in 12.24% patients [Table1].

Table1: showing ocular manifestations among SLE patients

Findings	Number	Percentage
Keratoconjunctivitis sicca	12	24.48
conjunctivitis	1	2.04
Episcleritis+ KCS	1	2.04
Eyelid involvement	0	0
Keratitis+KCS	3	6.12
uveitis	2	4.08
cataract	2	4.08
glaucoma	1	2.04
Retinopathy	6	12.24

Discussion

Nguyen *et al.* [5] stated that 90% of SLE patients are women with usual age of disease onset between the ages 15-45 years which is in accordance with our study, as we found 83.67% of patients were women and 10.20% men between 15-64 years of age. We found ocular manifestation in 46.93% patients which is also reported by Silpa-Archa *et al* [7]. KCS was found in 24.48 % which was seen in study by Soo *et al* [8]. In the study by Fouad *et al*, retinopathy was frequently seen in lupus patients [9], however, we found retinopathy in 12.24% patients. While assessing patients' visual acuity, we found vision greater than or equal to 20/60 in 42 patients (85.71%), thus majority of patients maintain good visual acuity during the course of the disease evidencing that SLE itself is not a common cause of visual impairment.

Conclusion

We found significant number of patients of SLE complaining about ophthalmologic disturbances. Early diagnosis and treatment of disease provide reduction in visual morbidity and mortality.

Limitations: our sample size was small. A large scale study is needed.

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