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A Rare Case of Systemic Lupus Erythematosus with Retinal Vasculitis

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Dr. Shanmuganandan Krishnan[1]., Dr. Sujana P Reddy[1]*., Dr.Manoj Ravilla Kumar[1]

1Department of General Medicine, Sree Balaji Medical College and Hospital, Chrompet, Chennai – 44, Tamil Nadu, India.
*Corresponding Author: sujanareddy13@gmail.com

Key Words:

Systemic lupus erythematosus, vasculitis, cotton wool spots.

Abstract:

Background: The complicated autoimmune illness known as systemic lupus erythematosus (SLE) is characterised by the development of autoantibodies, activation of the complement system, and immune complex deposition in tissues and organs. Each component of the visual system is susceptible to SLE. Ocular signs can be seen in up to one-third of SLE patients, despite the fact that they are not included in the categorization criteria for the disease. Rarely are they reported right when the illness first manifests. Retinal vasculitis typically coexists with a widespread active illness. Here is a case of a 28-year-old male developed diminished vision in his left eye.

1. Introduction:

Cotton wool patches, retinal hemorrhages, and vasculitis are visual symptoms of SLE, a multisystem autoimmune illness[1]. Without compromising visual acuity, these alterations might happen in the posterior pole or peripherally. Active disease in the eye may occur before the onset of systemic symptoms or signal the onset of further complications, such as cerebral lupus [2]. To give the best management and prevent future illness and treatment-related issues, close monitoring of disease activity is necessary. During routine follow-up, medication side effects must also be carefully examined.

Systemic lupus erythematosus (SLE) can cause retinal vasculitis, which is a rare but potentially blinding complication (SLE) [3]. Retinal hemorrhage, "cotton-wool" patches, and vaso occlusion are the most prevalent findings [4]. Antiphospholipid antibodies, immune complex deposition, and complement activation are all likely to be implicated in the aetiology [5]. Although systemic corticosteroids and cyclophosphamide are well-known treatments for vasculitis, case studies reveal that rituximab and plasma exchange can be effective [6].

2. Case Report:

A 28-year-old male, presented to the Outpatient Department with the complaints of blurring of vision in the left eye for 10 days. Complaints of pain in the bilateral knee joint for past 2 months on and off. h/o small joints pain for past 2 months. Complaints of rashes over the face for the past 1 month.

no complaints of fever, abdominal pain, chest pain, palpitations. no complaints of fatigue, breathlessness

Patient was diagnosed with SLE 1 year ago and was started on medications.

Fundus examination was done to the patient, which showed cotton wool spots

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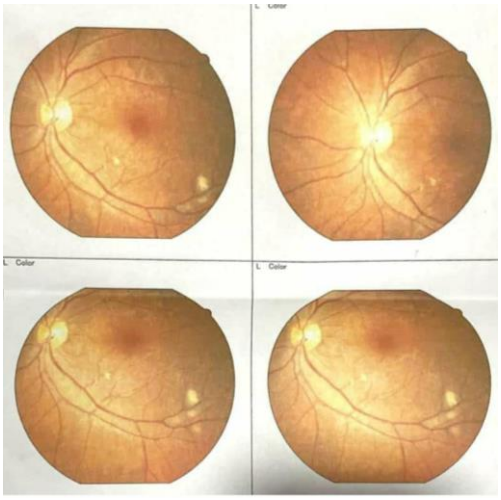

Figure 1: Left eye fundoscopy picture showing cotton wool spots

OCT of both eyes and FFA was done.

Pt was started on mycophenolate mofetil, methylprednisolone, hydroxychloroquine.

4 doses of Rituximab infusion were given. Patient improved symptomatically and the recent fundoscopy picture shows decrease in the cottonwool spots compared to the beginning.

3. Discussion:

SLE is a systemic and ocular inflammatory autoimmune illness that lasts for years. Immune complex depositions, which lead to vasculitis and thrombosis, are assumed to underlie the underlying pathogenesis. SLE-related retinopathy might take the typical form of cotton wool patches which may or may not have haemorrhages, or it can take the form of obstruction of the retinal vascular tree. One of the known consequences of SLE is ocular manifestation. This exceptional case emphasises the significance of reevaluating asymptomatic patients half yearly for both clinical and ocular manifestations, as well as the emergence of medication-related side effects like cataract, glaucoma, and maculopathy. While receiving immunosuppressive treatments at declining levels, SLE may recur. It's possible that immune complex deposition in the arterial wall causes retinal occlusive vasculitis in SLE.

Immunofluorescent methods were used at autopsy to show ocular accumulation of immune complexes at choroidal capillaries. Immune complex deposition, also been observed in the sclera, retina, and ciliary arteries, as well as the ciliary body and corneal basement membranes. Unlike other pauci- immune-small vessel vasculitis, ANCA is not linked to the progression of vasculitis secondary to SLE.

It's critical to recognize the link between SLE and antiphospholipid antibody (APS) syndrome, as the latter can cause vasculopathy. Controlling systemic inflammation and avoiding ocular consequences should be the goals of SLE treatment with ocular involvement. To best control SLE, systemic immunosuppressive medications plus inflammatory marker monitoring is required. Serological proof of systemic lupus erythematosus remission may or may not indicate later ocular retinal vasculitis. According to a study, a patient with SLE who had serological tests showing they were in remission also had severe occlusive vasculitis. Other systemic organ involvements, such as cerebral lupus and lupus nephropathy, have been linked to SLE-related retinopathy. Although there isn't a lot of proof that systemic organ involvement causes ocular symptoms of SLE, secondary vasculopathy is connected to the pathophysiology at play. Patients with retinal vasculitis should be thoroughly evaluated since they may have systemic vascular injury. Steroids were progressively administered to our patient, who was already on immunosuppressive medications when he developed retinal vasculitis.

4. Conclusion:

In a case of SLE like symptoms with diminished vision, its most likely to be vasculitis affecting the retina of the

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patient [7]. In cases of extensive retinal vasculitis with hemorrhages, treatment with photocoagulation and cyclophosphamide, intravenous immunoglobulins therapy can be used[8]. In mild- moderate retinal vasculitis cases of SLE infusions of rituximab can be given along the immunosuppressants, steroids, DMARD'S [9] like we did in our case.

Timely and effective management of these cases will show a favorable and a good outcome.

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