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A CASE OF RECURRENT SCLERITIS THAT LED TO THE DIAGNOSIS OF TUBERCULOSIS

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ABSTRACT

Tuberculosis caused by a bacterium called Mycobacterium tuberculosis, usually attack the lungs but can also affect other parts such as kidney, spine, eyes and brain. Here is 26 years old female patient that presented with pain and redness in both eyes and was a known case of recurrent scleritis for 3 years. On examination, there was endothelitis, anterior chamber inflammation with R/E and scleral thinning with KPs in L/E. On investigations, Mantoux test was highly positive, ESR was raised and cANCA and pANCA were negative. CECT chest was suggestive of granulomatous infection in upper and lower lobe of right lung. Based on clinical findings and investigations a diagnosis of tuberculosis was made and patient was started on ATT after which the patient improved significantly.

KEYWORDS: Recurrent Scleritis, scleral thinning, tuberculosis, ATT.

ABREVATIONS

R/E- Right eye, L/E- Left eye, ATT- Anti-tubercular therapy, E/D- Eyedrop

INTRODUCTION

Scleritis is an uncommon and painful inflammatory eye conditions that is often linked to systemic autoimmune disorders. It is a serious condition that can affect vision if not managed with appropriate systemic therapy. It is idiopathic in 50-60% cases, with autoimmune diseases accounting for approximately 25-35%, and infectious causes representing about 5-10%. Rheumatoid arthritis and systemic vasculitides, especially ANCA-associated vasculitis, are the primary autoimmune contributors. Notably, scleritis can sometimes be the only initial sign of an underlying autoimmune disorder, making it important to thoroughly assess the patient for the underlying etiology.[1]

Ocular tuberculosis is an extrapulmonary manifestation of mycobacterial infection that can present with diverse clinical features. While the lungs are involved in approximately 80% of tuberculosis cases, about 20% affect other organs, including the eye. It is important for clinicians to keep ocular tuberculosis in mind when evaluating patients with ocular inflammation, as its presentation can mimic more common inflammatory eye conditions. Early identification of the characteristic signs and symptoms is essential for initiating appropriate antitubercular treatment promptly, which can improve outcomes.[2]

Mycobacterium tuberculosis can induce various ocular manifestations, including conjunctival granulomas, nodular scleritis, and interstitial keratitis. The intraocular structures are also susceptible to infection, leading to conditions such as granulomatous uveitis in the anterior chamber, secondary glaucoma and cataracts. The bacteria can target the ciliary body, resulting in a localized caseating granuloma. Involvement of the posterior segment may present as vitritis, retinal vasculitis, optic neuritis, serpiginous-like choroiditis, choroidal tubercles, subretinal neovascularization, and in rare cases, endophthalmitis.[3]

It is considered a diagnostic challenge because of the difficulty to extract bacilli from the ocular tissue. However, a detailed medical history and eye examination

can be the key to an accurate diagnosis and appropriate treatment of the TB.[4]

CASE DETAILS

A 26years old female presented to eye OPD at dr. RPGMC, Tanda, Kangra, with a chief complaint of pain, redness, watering and burning sensation in both her eyes for two months.

There is a history of multiple episodes over the past three years with similar complaints of redness, pain, and blurred vision in both eyes, for which she received symptomatic treatment at multiple hospitals.

In right eye, Visual acuity was FC@1m. Ocular examination revealed marked deep ciliary congestion, with a bluish hue over the superior sclera suggestive of scleral thinning. Additionally, there was evidence of endothelitis. Anterior chamber examination showed active inflammation with 4+ cells, flare, hypopyon measuring less than 1 mm and posterior synechiae. Iris, lens and vitreous were normal. Fundus examination was also normal.

Figure 1: R/E showing conjunctival congestion, endothelitis and hypopyon.

In the left eye, Visual acuity was 6/12. On ocular examination, there was blueish discoloration of sclera suggestive of scleral thinning. Mutton fat KPs were seen at the back of cornea and rest of the ocular examination was normal.

Figure 2: L/E showing scleral thinning.

Systemic examination was also normal.

A diagnosis of redcurrant scleritis was made with active uveitis and scleritis in R/E and marked scleral thinning B/E. For initial treatment, the patient was put on Capsule Indomethacin OD, E/D Dorzolamide +Timolol 1 drop BD, E/D Prednisolone forte 1 drop 1 hourly, E/D Atropine 1drop TDS and E/D Moxifloxacin 0.5% 1 drop 6 t/d.

Investigations were suggestive of raised ESR and a positive Montoux test. CECT Chest- Small nodular changes with plural thickening in right lower lobe.

Figure 3: CECT Chest showing small nodular changes with plural thickening in right lower lobe.

Table 1: Investigations.

CRP	0.08 mg/dl
ESR	22 mm/hour
cANCA	Negative
pANCA	Negative
Rheumatoid factor	Negative
ANA	Negative
ACE	Negative
HLA-B27	Non-reactive
Pathergy test	Negative after 48 hours
Mantoux text	Highly positive (31x30mm)

Pulmonary consultation was taken and a diagnosis of extrapulmonary TB- Eye was made Patient was started on ATT.

Signs and symptoms resolved on subsequent follow-up visits with no episode of recurrence at one-year follow-up.

Figure 4 a): clinical picture at time of presentation
Figure 4 b): clinical picture at one-month follow-up

DISCUSSION

Scleritis is a serious inflammatory condition affecting the sclera. It is characterized by inflammation that can cause redness, pain, and potential vision loss if not properly managed. Scleritis is often associated with systemic autoimmune diseases such as rheumatoid arthritis, lupus, or vasculitis, but it can also occur independently.

Rarely it can also be caused by infectious diseases like tuberculosis. The difficulty in diagnosing TB as the cause of scleritis arises from non-specific clinical features, limitations of available diagnostic tests, the invasive nature of definitive testing, and overlapping features with other causes.[4]

This case underscores the importance of maintaining a high index of clinical suspicion, especially when dealing with atypical or refractory presentations. In instances where common causes of scleritis are ruled out or when standard treatments fail, clinicians must broaden their differential diagnosis to include rarer conditions such as ocular tuberculosis.

The absence of recurrence after starting ATT suggests the diagnosis was correct, and targeted therapy effectively treated the underlying TB. It highlights that a positive response to treatment can support diagnosis, and close follow-up is essential to confirm remission and prevent relapse.

CONCLUSION

In conclusion, recognizing the potential for infectious causes like tuberculosis in cases of refractory or atypical scleritis is crucial. A high index of suspicion, comprehensive evaluation, and appropriate targeted therapy can lead to successful management, as evidenced by the absence of recurrence after treatment. Close follow-up remains essential to ensure sustained remission and prevent relapse.

CONFLICTS OF INTREST

NIL.

FINANCIAL DISCLOSURE

NIL.

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