# Tubercular Scleritis: A Case report

***Mangalathevi Yelumalai*, Sangeetha Tharmathurai*****

*Department of Ophthalmology**
*Hospital Sultan Haji Ahmad Shah, Temerloh*

*Department of Ophthalmology***
*Hospital Kuala Lumpur.*

**Abstract**

**Introduction:** Scleritis is a painful inflammatory process of the sclera. It may also involve the cornea and the underlying uvea. Ocular tuberculosis (TB) is rare though its incidence has varied over time. It may have various clinical presentation.

**Case presentation:** In this report, we describe a case of unilateral tubercular anterior non necrotising scleritis. The patient was diagnosed with pulmonary tuberculosis. He presented with history of left eye pain associated redness, excessive lacrimation and unilateral headache. He was treated with anti-tubercular therapy and oral corticosteroids. Patient responded well to treatment.

**Conclusion:** Tuberculosis scleritis is a rare presentation of systemic tuberculosisis. It has been reported as a possible cause of ocular inflammatory manifestation.

**Keywords**

scleritis, pulmonary tuberculosis, anterior uveitis, ocular tuberculosis, tubercular scleritis

**Abbreviation**

TB: tuberculosis

## INTRODUCTION

Scleritis is a severe painful inflammatory process that may present as unilateral or bilateral eye disease. Pain is a hallmark symptom. It is a serious condition which can lead to blindness. Scleritis is usually suspected from presenting history and diagnosed by its clinical findings. Tubercular infections of the eye may present with various symptoms and mimic other ophthalmic diseases. This leads to misdiagnosis of these patients.[(1)]

In Malaysia the incidence of tuberculosis is 81.4 per 100000 population in 2010 [(2)] Tuberculosis related scleritis is an uncommon ocular inflammatory disease that challenges ophthalmologist in diagnosis and management. We describe a rare case of unilateral tubercular anterior non necrotising scleritis.

## CASE REPORT

A 46 years old man who is an ex intravenous drug user with underlying active pulmonary tuberculosis presented with left eye pain for 2 weeks duration. He had associated left blurring of vision, redness and excessive lacrimation. He also complained of left sided headache.

On examination, visual acuity was 6/9 right and 6/24 left. Left conjunctiva was injected with dilatation of deep episcleral vessels and anterior chamber cells +2. Left intraocular pressure was 18mmHg. Funduscopy was normal in both eyes. On the basis of these features, the patient was diagnosed with left active anterior non necrotising scleritis-associated with anterior uveitis. He was advised for laboratory and radiological

investigations. In the meantime, he was started on topical dexamathasone 1% and topical ciprofloxacin.

Laboratory examination found an elevated erythrocyte sedimentation rate of 106 mm/h. The tuberculin skin test results showed a 10mm induration. Plain radiography of the chest showed infiltrates on the right upper zone. On the basis of his history of being treated for pulmonary tuberculosis as well as laboratory and radiological evidence; a diagnosis of left tuberculosis related scleritis with anterior uveitis was made.

He was started on oral prednisolone 1mg/kg with the addition of anti-tubercular therapy ( Isoniazid, Rifampicin, Pyrizinamide, Ethambutol). During follow up we noted visual acuity improved to 6/18 with reduction in pain and redness. Subsequently at 3 weeks post treatment, he showed marked improvement in left vision of 6/9 with white conjunctiva and quiet anterior chamber. Presently, patient has completed 6 months of anti-tubercular therapy and is on regular follow up with no ocular or systemic complications of treatment.

Figure 1: Pre treatment

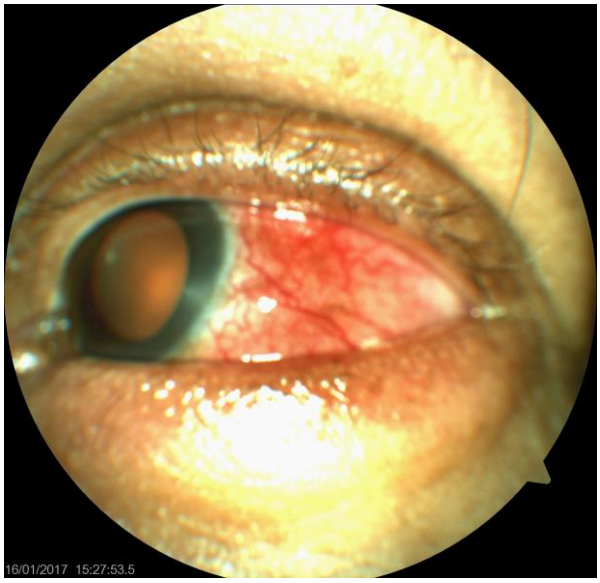



Figure 2: Pre treatment

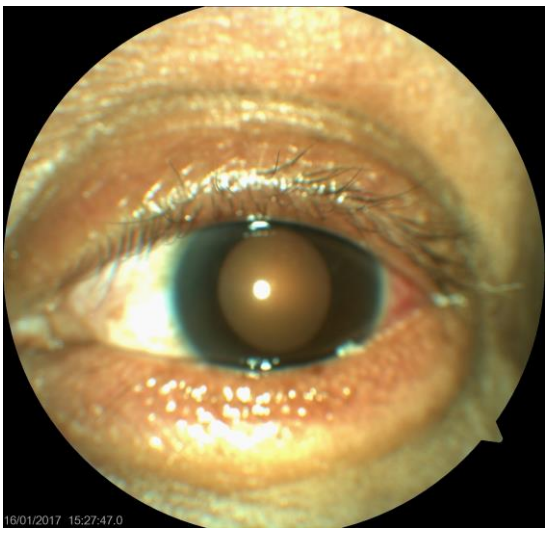
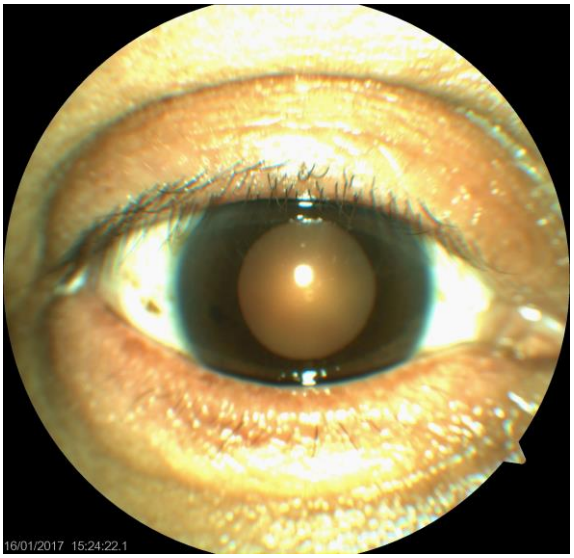



Figure 3: Post treatment




## DISCUSSION

Scleritis is a severely painful and potentially visual threatening inflammatory disease. It is characterized by edema and cellular infiltration of sclera and episcleral tissues. Autoimmune conditions are found in approximately 48% of patients and infectious cause in approximately 7%. [3] Scleritis is commonly associated with systemic autoimmune disorders including rheumatoid

arthritis, systemic lupus erythematous, giant cell arteritis, polyarteritis nodosa and relapsing polychondritis and Wegener granulomatosis.[3]

Scleritis may be classified anatomically into anterior and posterior based on anatomic classification of disease by Watson and Hayreh. [3, 4] Anterior scleritis is the most common type. [5] Anterior scleritis is divided into diffuse, nodular, necrotizing with inflammation and necrotizing without inflammation (scleromalacia perforans) [3, 5]. Diffuse scleritis and nodular scleritis are the most common clinical forms. Necrotizing scleritis with or without inflammation is less frequent. [3] Posterior scleritis is characterized by flattening and thickening of posterior aspect of the globe with retrobulbar edema. [3] Exudative retinal detachment, optic disc edema, cystoid macular edema and choroidal folds are complications of posterior scleritis.

Tuberculosis (TB ) is a possible infectious cause of scleritis. [1-8] Ocular mycobacterium tuberculosis (MTB) infection is most often due to hematogenous spread from a distant site (such as lungs) [5,9,11] Infection may also occur by direct extension from surrounding tissue [9, 11].

Characteristic features of scleritis include severe pain involving the eye and orbit that radiates to involve scalp, face and jaw. There may also be photophobia and lacrimation as well. [12] However, the lack of uniform diagnostic criteria for intraocular tuberculosis makes it a challenge in diagnosis and management. [1,13] Furthermore, TB related scleritis as seen in our patient is a rare entity.

There have been cases of TB related scleretis albeit rare.[16] Kesen et al in 2009 reported a case of drug resistant tuberculosis scleritis presenting with masses at the anterior sclera.[17] Similarly, in 2012, Damodaran et al reported a case of severe intraocular inflammation and a large mass lesion in the globe detected by ultrasonography.[18]

Definitive diagnosis of ocular TB is based on demonstration of mycobacterium tuberculosis in ocular samples using polymerase chain reaction (PCR) detection and growth in cultures or detection of acid fast bacilli on smears [13, 14] Limitation of available diagnostic tests, cost and invasiveness of obtaining tissue samples are the reasons for difficult diagnosis of ocular TB infection. [9] The diagnosis of ocular TB remain largely presumptive due to the difficulty in obtaining samples. [6,11, 15]

## CONCLUSION

Tuberculosis is a possible infectious cause of scleritis. Tubercular scleritis is diagnostic challenge. Missed diagnosis or delayed diagnosis can lead to blindness and other systemic complication. A high index of suspicion is needed to make the diagnosis.

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## AUTHORS

**First author** - Mangalathevi Yelumalai, MD, Department of Ophthalmology, Hospital Sultan Haji Ahmad Shah, Temerloh,Pahang, Malaysia, mangalathevi96@gmai.com.

**Second author** - Sangeetha Tharmathurai, MBBS, Department of Ophthalmology, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia. sangt@hotmail.com

**Correspondence Author**- Mangalathevi Yelumalai, mangalathevi96@gmail.com, mangalathevi@gmail.com, 6010-9146915