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TUBERCULOSIS MASQUERADING AS PANOPHTHALMITIS IN A CASE OF SCLEROMALACIA PERFORANS : A DIAGNOSTIC CHALLENGE - CASE REPORT

Ophthalomology

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ABSTRACT

Introduction and Background: Scleromalacia perforans is a rare form of necrotizing anterior scleritis characterized by progressive scleral thinning and is commonly associated with autoimmune disorders. Tuberculosis may present with atypical ocular manifestations and can mimic inflammatory scleral disease. **Objective:** To report a rare case of scleromalacia perforans with panophthalmitis associated with radiological findings suggestive of pulmonary tuberculosis. **Method:** An 83-year-old male presented to the ophthalmology outpatient department at Dr. D. Y. Patil Medical College and Hospital with diminution of vision in the left eye since two months. Detailed ocular examination, slit-lamp evaluation, conjunctival swab analysis, sputum examination, CBNAAT, inflammatory markers, and HRCT chest were performed. **Results:** Visual acuity in the left eye was no perception of light. Slit-lamp examination revealed scleral melting, scleral thinning, and anterior chamber exudates suggestive of panophthalmitis with scleromalacia perforans. ESR was elevated to 35.80 mm/hr, CRP was 5.74 mg/L, and rheumatoid factor was 17.54 IU/mL. Conjunctival swab Gram stain and KOH mount were negative. Sputum Gram stain and culture showed gram-positive cocci in chains, whereas CBNAAT for tuberculosis was negative. HRCT chest demonstrated findings suggestive of Koch's disease. The patient was treated with intravenous Augmentin, injection Pantoprazole, oral Combiflam, hourly Vigamox eye drops, and Ocupol eye ointment. Patient was also started on Oral Anti Tubercular drugs. **Summary and Conclusion:** This case highlights the diagnostic challenge of differentiating infectious and autoimmune causes of scleral melting. HRCT chest played an important role in identifying possible occult tuberculosis despite negative microbiological investigations. Comprehensive systemic evaluation is essential in atypical severe scleral disease.

KEYWORDS

Scleromalacia perforans; Panophthalmitis; Ocular tuberculosis; Scleral melting.

INTRODUCTION

Scleromalacia perforans is a rare and severe subtype of necrotizing anterior scleritis characterized by progressive scleral thinning without significant pain or inflammation. It is commonly associated with systemic autoimmune diseases, particularly rheumatoid arthritis. Progressive scleral destruction may lead to exposure of the underlying uveal tissue and irreversible visual loss.

Panophthalmitis is a severe inflammatory condition involving all coats of the eyeball and intraocular structures. It usually results from infectious causes and often carries a poor visual prognosis. The coexistence of panophthalmitis with scleromalacia perforans is uncommon and presents a diagnostic dilemma because both infectious and autoimmune etiologies may contribute to disease progression.

Tuberculosis remains a major health concern in developing countries such as India. Ocular tuberculosis is known as a great masquerader because it can involve nearly every ocular structure and may mimic inflammatory or autoimmune ocular diseases. Establishing the diagnosis of ocular tuberculosis is difficult because microbiological confirmation is frequently absent. Radiological investigations such as high-resolution computed tomography (HRCT) chest often play a crucial role in diagnosis.

We report a rare case of scleromalacia perforans associated with panophthalmitis in an elderly patient with HRCT chest findings suggestive of pulmonary tuberculosis despite negative CBNAAT testing.

PATIENT AND METHODS

An 83-year-old male (Patient ID - 4383028), presented to the Department of Ophthalmology at Dr. D. Y. Patil Medical College and Hospital with complaints of diminution of vision in the left eye since two months. The diminution of vision was progressive and associated with redness and ocular discomfort.

The patient was a known hypertensive and diabetic and was on antihypertensive and anti-diabetic medications and antiplatelet therapy. There was no history of ocular trauma, previous ocular surgery, or known autoimmune disease.

Detailed ophthalmic examination was performed. Visual acuity assessment, slit-lamp examination, and anterior segment evaluation were carried out. Systemic investigations were planned to determine infectious and autoimmune etiologies.

Microbiological investigations included conjunctival swab for Gram staining and potassium hydroxide (KOH) mount examination. Sputum examination, sputum culture, and Cartridge-Based Nucleic Acid Amplification Test (CBNAAT) for tuberculosis were also performed.

Inflammatory markers including erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) & rheumatoid factor (RF) testing were advised. HRCT chest was performed as part of the preoperative and systemic evaluation.

The patient was admitted for medical management and close observation. Evisceration was planned considering the poor visual prognosis.

RESULTS

On examination, visual acuity in the right eye was 6/36 with pinhole 6/18p , while the left eye had no perception of light (No PL) checked by Indirect Ophthalmoscope by 2 Ophthalmologists in a dark room.

Slit-lamp examination of the left eye revealed marked scleral thinning and scleral melting predominantly involving the nasal sclera. Areas of uveal show were present with surrounding congestion. Exudative material was seen in the anterior chamber suggestive of severe intraocular inflammation. Corneal edema and features suggestive of panophthalmitis were also noted.

The conjunctival swab Gram stain and KOH mount examination were negative for bacterial and fungal organisms.

Laboratory investigations demonstrated elevated inflammatory markers. ESR was 35.80 mm/hr, CRP was 5.74 mg/L, and rheumatoid factor was 17.54 IU/mL.

Sputum Gram staining demonstrated many gram-positive cocci arranged in chains, and sputum culture revealed growth of gram-positive cocci in chains. However, CBNAAT for tuberculosis was negative.

HRCT chest demonstrated findings suggestive of Active Koch's infection, raising suspicion of pulmonary tuberculosis despite negative microbiological evidence.

The patient was managed conservatively with intravenous Augmentin twice daily, injection Pantoprazole once daily, oral Combiflam tablet twice daily, hourly Vigamox eye drops, and Ocupol eye ointment at bedtime. Supportive treatment and multidisciplinary consultation with pulmonary medicine and physicians were obtained. He was initiated on daily fixed dose combination ANTI-TB therapy under NTEP,

consisting of Isoniazid 75mg, Rifampicin 150mg, Pyrazinamide 400mg and Ethambutol 275mg per tablet. Patient was adviced to take five tablets once daily as per body weight for 6 months.

Because of extensive scleral destruction and absence of visual potential, evisceration was planned; however, further systemic stabilization and evaluation were advised prior to surgery.

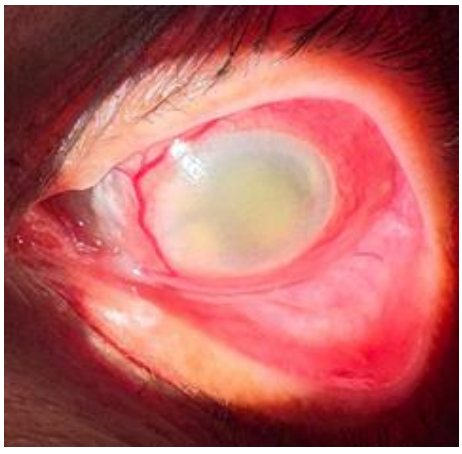

Figure1: shows exudates in anterior chamber, corneal oedema and membrane in pupillary area suggestive of panophthalmitis on slit lamp examination.

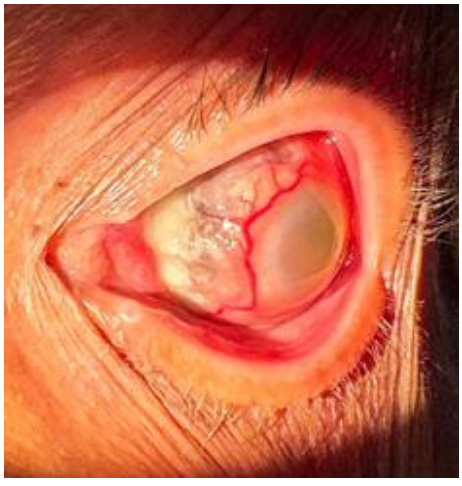

Figure 2: shows scleral thinning on nasal side along with corneal edema on slit blamp examination.

Patient ID:4383028	
Age: 83 years	Sex: Male
Accession:	Modality: CT
Referring Physician: OPD	Study: CT HRCT CHEST
Study Date: 20 May 2026	

MULTISLICE HRCT CHEST (P)

Protocol:

Plain CT chest was performed. Images have been documented using smallest possible FOV & high spatial frequency algorithm.

Observations:

- Multifocal areas of peribronchovascular consolidations are noted in left upper lobe, lingula and right lower lobe with Centrilobular nodules and tree in bud appearances (left > right)
- Multifocal nodular left upper lobe.
- Rest of the lung parenchyma is normal
- The trachea and the mainstem bronchi are well seen on both sides and are normal in outlines.
- Both hila are normal and there is no obvious hilar mass.
- Mediastinal vascular structures appear normal in course and caliber
- There is no obvious mediastinal mass lesion.
- The cardiac size appears grossly normal.
- Pericardial layers appear normal without any effusion.
- There is no pleural collection seen.
- No obvious significant abnormality is seen in chest wall.
- Visualized superior aspects of abdomen show no significant abnormality of note.

Patient ID:4383028	
Age: 83 years	Sex: Male
Accession:	Modality: CT
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Impression:

- Multifocal areas of peribronchovascular consolidations are noted in left upper lobe, lingula and right lower lobe with Centrilobular nodules and tree in bud appearances (left > right)
- **These f/s/o active Koch's infection**

Clinico-pathological correlation suggested .

Thanks for reference,

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Consultant Radiologist

Figure 3: shows multislice HRCT Chest reports of the patient.

DISCUSSION

Scleromalacia perforans is a rare but severe form of necrotizing anterior scleritis associated predominantly with autoimmune connective tissue disorders such as rheumatoid arthritis. The disease is characterized by progressive scleral thinning with minimal inflammatory signs. Delay in diagnosis can lead to severe complications including scleral perforation and permanent blindness.

Infectious scleritis is relatively uncommon but clinically significant because treatment differs markedly from autoimmune scleritis. Tuberculosis is an important infectious cause of scleral inflammation in endemic countries. Ocular tuberculosis may occur either by direct infection or secondary hypersensitivity reaction to Mycobacterium tuberculosis.

The present case was diagnostically challenging because the patient presented with severe scleral melting and panophthalmitis with complete loss of vision. Although microbiological investigations from conjunctival swab were negative, HRCT chest revealed finding suggestive of pulmonary tuberculosis. Negative CBNAAT results do not completely exclude tuberculosis, especially in paucibacillary disease.

Elevated ESR and CRP in the present case indicated active systemic inflammation. Mild elevation of rheumatoid factor raised suspicion for autoimmune association, although clinical correlation is essential because rheumatoid factor positivity may also be seen in elderly individuals without rheumatoid arthritis.

The presence of gram-positive cocci in sputum Gram stain and culture may indicate secondary respiratory infection or colonization rather than the primary pathology. Correlation between ocular findings, inflammatory markers, microbiological investigations, and radiological imaging is therefore necessary for accurate diagnosis.

This case emphasizes the importance of comprehensive systemic evaluation in patients presenting with severe scleral disease. HRCT chest may provide important diagnostic clues even when conventional microbiological investigations are negative. A multidisciplinary approach involving Ophthalmologists, Pulmonologists, Orthopedician and Physicians is essential for appropriate management.

Early recognition of possible infectious etiologies is crucial because immunosuppressive therapy used for autoimmune scleritis may worsen underlying infections if infectious causes are not excluded.

CONCLUSION

Scleromalacia perforans associated with panophthalmitis is a rare and vision-threatening presentation. Tuberculosis should always be considered in atypical scleral disease in endemic regions, even when microbiological investigations such as CBNAAT are negative.

The present case highlights the diagnostic value of HRCT chest in identifying occult pulmonary tuberculosis and demonstrates the importance of detailed systemic evaluation and multidisciplinary management in severe ocular inflammatory disease.

Patient Consent

Written informed consent was obtained from the patient and relatives for publication of clinical details and clinical photographs. Efforts have been made to maintain patient confidentiality and anonymity.

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Nil.

Conflicts of Interest

There are no conflicts of interest.

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