

Rare Presentation of Nodular Episcleritis with Tuberculosis: A Case Report

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ABSTRACT

Introduction: For developing countries, Tuberculosis (TB) still remains a highly infectious disease and prevalent disease causing high morbidity and mortality. However it commonly affects the lungs, but it also involves invariably ocular tissue. Association of nodular episcleritis with Tuberculosis is rare and no such case in an adult female has been reported in the literature.

Case Report: Herein we present a rare case of tubercular nodular episcleritis in a 33-year-old Indian female in hilly state of northern India. A 33-year-old female presented to our OPD with mild pain, redness and lacrimation of her left eye since one month. She had taken treatment from other eye centre but in spite of treatment, her eye symptoms didn't subside completely and they recurred. After doing thorough investigations it turned out to be tubercular nodular episcleritis as montux test was highly positive. This patient was put on ATT and on further regular follow ups, patient recovered well and there was no recurrence.

Conclusion: As per literature, it is correct to state that tuberculosis is having rare association with nodular episcleritis but keeping in view the high endemicity of tuberculosis in India, it is suggested that tuberculosis needs to be ruled out whenever we encounter a case of nodular episcleritis.

Keywords: Episcleritis, Anti-tubercular treatment, Tuberculosis

INTRODUCTION

The pathophysiology of Episcleritis is not clear. Episcleritis is mainly of two types. First is Diffuse type (70%), which is more common variant than second type i.e. nodular (30%) but nodular episcleritis have prolonged course and is more painful than diffuse episcleritis and also have an associated systemic disease in many cases.¹ Two thirds of patients with episcleritis have unilateral involvement. Episcleritis is more common in females than in males. Most cases are idiopathic, however one third of cases may have an underlying systemic condition, particularly connective tissue or vasculitic diseases and may also be associated with infectious causes including tuberculosis, syphilis, herpes simplex and herpes zoster.² Tuberculosis is highly endemic disease in developing countries and same applies to India causing high morbidity and mortality. Its association with nodular episcleritis is documented in literature but it's very rare and as such no data is available in literature showing the strength of association and only very few cases are reported in literature.

CASE REPORT

A 33-year-old Indian female presented to eye clinic at civil hospital Rohru, Shimla (HP) with mild pain, redness and lacrimation of her left eye since one month. She also had associated left sided mild headache with lethargy. It was her first episode and was no history of any trauma or any ocular surgery. She neither complained of any problem in her opposite

eye nor gives history of any joint pain, dryness of mouth, fever, cough or any other systemic illness. There was no history of use of any systemic or topical drugs prior to the illness. There was no family history of tuberculosis. She was previously evaluated at another eye centre and was given Tobramycin and Fluoromethalone combination eye drop four times a day, carboxy methyl cellulose 0.5% eye drop three times a day but there was no gross improvement and recurrence was there so finally patient came to our hospital for evaluation and management.

On examination, she had slight tenderness in her right eye. She was conscious, co-operative and well oriented to time, place and person. She was thinly built and her body weight was 46 kg and her height was 158 cm. She was a febrile and vital parameters were normal. Systemic examination was normal. There were no palpable lymph nodes. Her visual acuities in both eyes have always been 6/6. Lids and adnexa were normal. A pinkish nodule of about 2mm size and about 2-3 mm from the limbus was observed in her right eye near the medial canthus from 4'o'clock to 6'o'clock position. This nodule was not adhered to conjunctiva and scleral tissue and episcleral vessels were engorged and red (Figure-1 and 2).

Intraocular pressure was normal and no abnormality was observed in anterior or posterior segment. Fundus examination was normal. Slit lamp examination revealed involvement of episclera There was no sclerouveal tissue involvement. Cotton swabs were collected from conjunctival fornices and sent for bacterial culture and Acid Fast Bacilli (AFB) but reports were negative. As there was no history of cough, so sputum for AFB was not done. Chest radiograph was normal.

The routine investigations revealed that his haemoglobin was 10.8g/dl, Erythrocyte sedimentation rate was 66 mm/hour, Total Leukocyte Count was 7300 per cu. mm with neutrophils 68%, leukocytes 19%, basophils 1%, eosinophils 2%. HIV test was negative. Rheumatoid factor was negative. Rest of blood investigations were normal.

There was no evidence of pulmonary tuberculosis. Mantoux test was strongly positive with 23 mm X 20 mm induration after 72 hours. Ultrasound of abdomen and pelvis was done and it was normal. So keeping in view first the slit lamp examination findings, second a very high Mantoux test reading, third a

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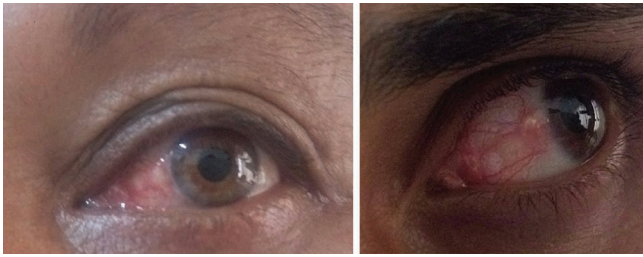


Figure-1: Nodular episcleritis; **Figure-2:** Nodular episcleritis

nodular lesion in the eye not responding to topical steroids and other medications and further added upon by the fact that there is high endemicity of tuberculosis in India, we diagnosed this as a case of tubercular nodular episcleritis of the right eye. Anti-tuberculosis treatment (ATT) under Directly Observed Treatment Short course, Category-I (DOTs-CAT I) as per Revised National Tuberculosis Control Programme (RNTCP) was started and was also advised to use topical lubricants and to come for regular follow-up in eye OPD. A written informed consent was obtained for using the clinical images and the details of the case. Patient came for regular follow ups and she responded to ATT as redness, pain, headache has subsided.

DISCUSSION

Tuberculosis (TB) is highly endemic infectious disease and it causes high morbidity and mortality especially in developing world.³ Tuberculosis invariably involves the eye. The ocular involvement of tuberculosis is approximately 1% to 2%. It may involve any part of the ocular tissue right from lids, conjunctiva, cornea, sclera, uveal tract, optic nerve to the orbit, however tubercular involvement of ocular tissues is rare.⁴ Episcleritis is mainly caused by an exogenous source and that's too mainly by immunological source however its association with tuberculosis and herpes are also reported.⁵⁻⁸ Episcleritis is of two types the simple episcleritis and nodular episcleritis. Nodular episcleritis is less common than diffuse type but it is more painful, recurrence rate is more and its association with systemic diseases has been reported.

A similar case was reported by Bathula et al, in a child, however the present case differs from it in terms of presence of nodule with venous engorgement and the patient was an adult female.⁹ The case reported from Nepal in a young female with anterior nodular non-necrotizing scleritis differs from our case in terms of presenting complaints and location of the lesion.¹⁰

As per references cited above, it may be commented that as far as diagnosis of nodular episcleritis is concerned, the diagnosis in such rare condition is mostly dependent on a detailed history and observations on slit lamp examination. A positive Mantoux test can be suggestive of but it's not conclusive of tubercular nodular episcleritis. Literature reveals that a study has established definite diagnosis by using a polymerase chain reaction method by using MPB 64 protein coding sequence which is specific for *Mycobacterium tuberculosis*. Other diagnostic tests like hemagglutination, flocculation and agar gel methods to detect TB are available but results are not up to the mark.

Nodular episcleritis is a curable condition. The treatment includes anti-tubercular treatment (ATT) with appropriate doses. This treatment is under Directly Observed Treatment Short course, Category-I (DOTs-CAT I) as per Revised National Tuberculosis Control Programme (RNTCP) for six-months with

daily Isoniazid, Rifampicin, Pyrazinamide and Ethambutol for the first two months followed by Isoniazid and Rifampicin for the next four months. The use of topical vasoconstricting agents and topical corticosteroids should be avoided due to risk of recurrences and steroid side effects like glaucoma and cataract. The ophthalmologists should keep tuberculosis in differential diagnosis as a cause of nodular episcleritis and should perform systemic examination and investigations accordingly. The key to avoid adverse effect on the visual acuity is early diagnosis and treatment. Keeping in view the available diagnostic tests it is the need of hour to have availability of more sensitive and rapid diagnostic techniques because it is bit hesitating to start empirical ATT without systemic involvement.

CONCLUSION

Any Infectious disease can have adverse effects on the eye. We came across a case of nodular episcleritis associated with tuberculosis and was diagnosed by detailed slit lamp examination, a highly positive Mantoux test, no response to topical steroids and other medications. Keeping in view the high endemicity of tuberculosis in India, it is suggested that tuberculosis needs to be ruled out whenever we come across a case of nodular episcleritis.

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