

Figure 2 (a) Histopathology of the schwannoma showing an area of calcification surrounded by many spindle cells (haematoxylin and eosin, $\times 44$). (b) Magnified view of schwannoma depicting typical pattern of palisading and verocay bodies (Hemotoxylin and eosin, $\times 144$).

common nerves of origin of orbital schwannomas.⁴ Till date, there are only two reports of a schwannoma arising from the lacrimal nerve.^{5,6} In this case too, it may have been arising from the lacrimal nerve, as it was located in the lacrimal fossa region although we were unable to confirm it.

Orbital calcification in the lacrimal fossa region is seen in dermoid cyst, dermolipoma, plasmacytoma, and malignant epithelial tumours. Calcification is rarely seen in schwannoma. Rootman *et al*⁷ found calcification in one orbital schwannoma. Although imaging studies such as ultrasonography, CT scan, and magnetic resonance imaging (MRI) are helpful in the diagnosis of schwannoma, there is no single diagnostic feature among these investigations. In most cases, the diagnosis is based on the characteristic histopathology. Owing to the rarity of neurogenic tumours occurring in the lacrimal gland region and presence of calcification within the mass, we did not consider schwannoma in the differential diagnosis. We conclude that schwannomas should be included in the differential diagnosis of tumours presenting in the lacrimal gland region.

References

- 1 Schatz H. Benign orbital neurilemmomas: sarcomatous transformation in Von Recklinghausen's disease. *Arch Ophthalmol* 1971; **86**: 268–273.
- 2 Jakobiec FA, Font RL. Orbit. In: Spencer WH (ed). *Ophthalmic Pathology: An Atlas and Textbook*. 4th edn. WB Saunders: Philadelphia, PA, 1966, pp 2645–2664.
- 3 Pollock SC. Tumours of Cranial and Peripheral Nerves. In: Miller NR, Newmann NJ (eds). *Walsh and Hoyt's Clinical Neuroophthalmology*, Vol 2, 5th edn. William and Wilkins Co.: Baltimore, MD, 1998, pp 2297–2327.
- 4 Cantore G, Ciapetta P, Raco A, Lunardi P. Orbital schwannomas: report of nine cases and review of literature. *Neurosurg* 1986; **19**: 583–588.
- 5 Nadkarni T, Goel A. A trigeminal neurinoma involving the lacrimal nerve: case report. *Br J Neurosurg* 1999; **13**: 75–76.
- 6 Rose GE, Wright JE. Isolated peripheral nerve sheath tumors of the orbit. *Eye* 1991; **5**: 668–673.
- 7 Rootman J, Goldberg C, Robertson W. Primary orbital schwannomas. *Br J Ophthalmol* 1982; **66**: 194–204.

U Singh¹, J Sukhija¹, S Raj¹, BD Radotra² and A Gupta¹

¹Department of Ophthalmology
Post Graduate Institute of Medical Education and
Research, Chandigarh 160012, India

²Department of Pathology
Post Graduate Institute of Medical Education and
Research, Chandigarh 160012, India

Correspondence: Dr U Singh
Tel: +91 172 747 585 x 224
E-mail: grverma@mantraonline.com

The authors have no proprietary or financial interest in any article of this paper.

Sir,

Ocular tuberculosis with angle granuloma
Eye (2004) **18**, 219–221. doi:10.1038/sj.eye.6700590

Tuberculosis (TB) is one of the major systemic diseases causing mortality and morbidity in developing countries. However, migration from these countries to developed countries, widespread drug abuse, predisposition of AIDS patients to mycobacterial infections, and development of multiple drug-resistant strains of the pathogen have aroused interest throughout the world.^{1,2}

TB may affect any ocular or orbital tissue, either by an active infection or an immunologic reaction, related to delayed hypersensitivity and an aseptic reaction.¹ Here

we report a case with a nodular localized angular mass, diagnosed as presumed intraocular TB.

Case report

A 24-year-old male, 1 month previously having suffered from redness in his right eye, was prescribed topical steroids and referred to our clinic with a diagnosis of intraocular mass and uveitis. Visual acuities were 20/20 OU. Slit-lamp findings of the right eye revealed 1+ cell in the anterior chamber and a yellow-white coloured nodular mass at 6 o'clock on the peripheral iris. There were no keratic precipitates and posterior synechiae. Vitreous, retina, and choroid were normal. The intraocular pressure was normal. On gonioscopy, the minimally vascularized $4 \times 3 \text{ mm}^2$ nodular mass was determined in the anterior chamber angle (Figure 1a). On ultrasonic biomicroscopy, the mass was isolated from angular structures with no penetration. The left eye was normal.

General examination and blood tests were unremarkable. ESR was 17 mm/h. HIV serology was negative. He had received BCG vaccination in his

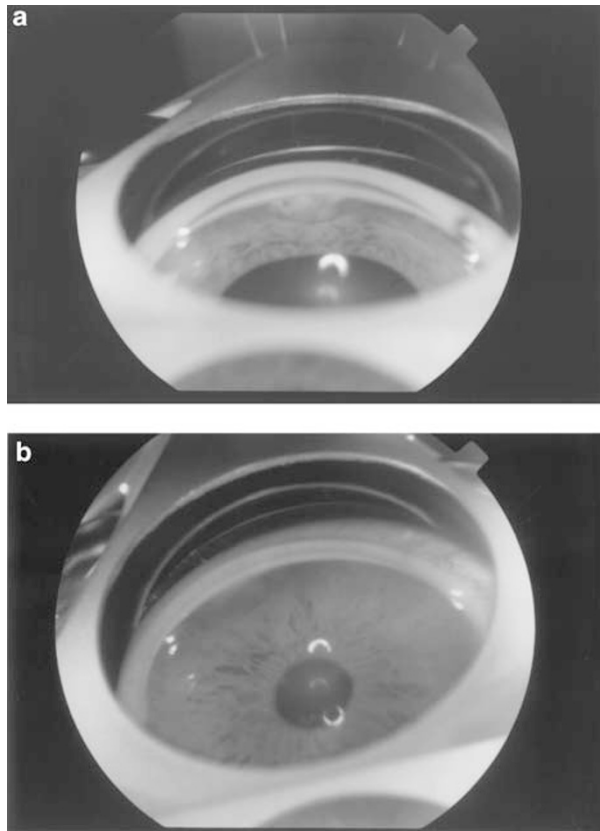


Figure 1 (a) Slit-lamp photograph showing a yellowish-white nodular mass in the anterior chamber on the iris at 6 o'clock position. (b) Slit-lamp photograph of the right eye. The nodular mass has been resolved after systemic anti-TB treatment.

childhood, and PPD skin test caused an induration of 19 mm. Cranial and orbital CT and abdominal ultrasonography revealed normal findings. On the chest X-ray, there were chronic peribronchial thickenings. Thoracic CT revealed suspicious nodular lesions in the right and left lobe apical sections. Sputum culture and ARB (acido-resistant bacilli) in the sputum were also negative. Histopathological examination of the biopsy material taken from the nodular lesion in the lung parenchyma and the lymph node located in the right oblique fissure revealed a granulomatous inflammation with caseation necrosis circumscribed by epithelioid histiocytes and Langhans-type giant cells. In the Ziehl-Nielsen staining of the biopsy material, acid-fast bacilli were seen (Figure 2). The patient was diagnosed as primary pulmonary TB with a probable secondary invasion of the iris tissue. An anti-TB regimen of isoniazid, rifampin, ethambutol, and pyrazinamide for 2 months, and isoniazid and rifampin for 4 months through a total period of 6 months with regular follow-ups was initiated. The nodular lesion was smaller with no anterior chamber reaction after the first month of treatment, which was no longer seen after the second month (Figure 1b).

Comment

In primary ocular TB, the eye is the initial portal of entry into the body, whereas the secondary one is defined as an infection resulting from contagious spread from an adjacent structure or haematogenous dissemination. Intraocular inflammation includes mutton-fat keratic precipitates, iris granulomas, posterior synechiae, vitritis, vasculitis, retinal ischaemia, macular oedema, choroidal tubercles, retinal involvement, endophthalmitis, and panophthalmitis,^{1,3} of which the most common are

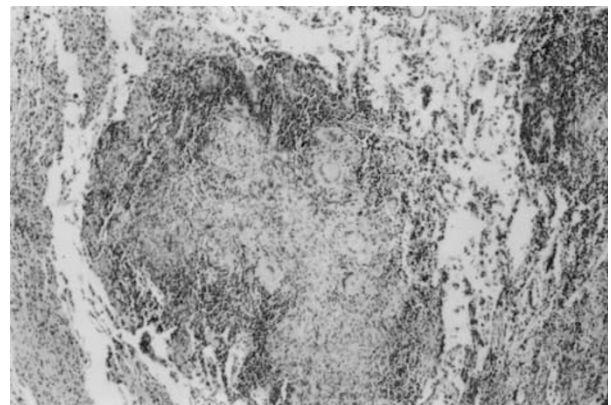


Figure 2 Granulomatous inflammation with caseation necrosis circumscribed by epithelioid histiocytes and Langhans-type giant cells in the biopsy material taken from lung parenchyma (HE; original magnification, $\times 40$).

chronic anterior uveitis, retinal periphlebitis, and choroiditis.⁴

Our patient was an immunocompetent young man. As the mass was slightly vascularized and yellowish-white in colour, we first made a differentialization from any tumoral or metastatic lesion. Sarcoidosis was also not applicable in our case because of the normal blood ACE level and lack of any other ocular or systemic sign specific for this disease.

For diagnosis of ocular TB, a high index of clinical suspicion, past medical history of patients and their families, ethnic origin, and socioeconomic circumstances are important.^{5,6} The presence of a family history of primary TB led us to investigate for TB in our patient. The diagnosis of ocular TB can be made by demonstrating *Mycobacterium tuberculosis* from ocular fluid or tissue specimen by a microbiologic or histopathologic study or can be made as presumed ocular TB with proven active systemic disease or as presumed ocular disease without any active systemic disease.⁶ Our case is included in the second group.

The ocular TB cases presenting with iris nodules or iridocyclitis in the literature demonstrated severe anterior uveitis with corneal involvement, responding to anti-TB therapy.⁵⁻⁷ On the contrary, in our case, the anterior chamber reaction was more localized and slight probably owing to the topical steroid treatment.

The PPD test has low sensitivity and specificity, especially in countries where previous BCG vaccines may cause a hypersensitivity response.^{1,3} In the absence of symptoms and/or chest radiographic findings, a positive result consisting of indurations less than 10 mm is generally attributed to a history of BCG in childhood.⁸ The specificity of the PPD skin test increases with larger skin reactions and with a history of exposure to an active case of TB, as for our patient. In a series, selected PPD-positive patients with clinical findings consistent with intraocular TB had a favorable response to anti-TB therapy. Treatment protocols for ocular TB are similar to those used for pulmonary TB and should be adapted to the immune status of the host. The most commonly used one is the four-drug regimen that our patient received.¹

Ocular disease can occur with or without the evidence of any systemic focus of TB, or as a metastatic spread from a primary focus.^{6,9} Our case demonstrates the importance of the ocular signs because the systemic disease had until this time been latent.

References

- 1 Bodaghi B, LeHoang P. Ocular tuberculosis. *Curr Opin Ophthalmol* 2000; **11**: 443-448.

- 2 Sarvananthan N, Wiselka M, Bibby K. Intraocular tuberculosis without detectable systemic infection. *Arch Ophthalmol* 1998; **116**: 1386-1388.
- 3 Sheu SJ, Shyu JS, Chan LM, Chen YY, Chirn SC, Wang JS. Ocular manifestations of tuberculosis. *Ophthalmology* 2001; **108**(9): 1580-1585.
- 4 Kotake S, Kimura K, Yoshikawa K, Sasamoto Y, Matsuda A, Nishikawa T *et al*. Polymerase chain reaction for the detection of *Mycobacterium tuberculosis* in Ocular tuberculosis. *Am J Ophthalmol* 1994; **117**: 805-806.
- 5 Rosen PH, Spalton DJ, Graham EM. Intraocular tuberculosis. *Eye* 1990; **4**: 486-492.
- 6 Biswas J, Madhavan HN, Gopal L, Badrinath SS. Intraocular tuberculosis clinicopathologic study of five cases. *Retina* 1995; **15**(6): 461-468.
- 7 Gupta V, Arora S, Gupta A, Ram J, Bambery P, Sehgal S. Management of presumed intraocular tuberculosis: possible role of the polymerase chain reaction. *Acta Ophthalmol Scand* 1998; **76**(6): 679-682.
- 8 Morimura Y, Okada AA, Kawahara S, Miyamoto Y, Kawai S, Hirakata A *et al*. Tuberculin skin testing in uveitis patients and treatment of presumed intraocular tuberculosis in Japan. *Ophthalmology* 2002; **109**(5): 851-857.
- 9 Helm CJ, Holland GN. Ocular tuberculosis. *Surv Ophthalmol* 1993; **38**: 229-256.

MS Saricaoğlu, A Sengun, D Guven and A Karakurt

Ankara Numune Education and Research
Hospital 3, Eye Clinic, Turkey

Correspondence: MS Saricaoğlu
Ivedik Caddesi Tales Apt No: 77/17 Yenimahalle
Ankara, Turkey
Tel: +90 312 426 4711
Fax: +90 312 426 4712
E-mail: msinarsica@yahoo.com

Sir,

Traumatic rupture of the lateral rectus

Eye (2004) **18**, 221-222. doi:10.1038/sj.eye.6700592

We present a case of rupture of the lateral rectus that followed a violent assault. Rupture of the lateral rectus is an infrequently encountered injury in isolation from other ocular injuries. The surgical management of this case is described. The various treatment options and a review of current literature are discussed.

Case report

A 39-year-old patient presented to the eye casualty department complaining of double vision following an assault. He was attacked from behind in an attempt to gouge out his eyes. He had no significant medical or ophthalmic history.