

TUBERCULOSIS OF THE ORBIT

MOHINDER SINGH, FRCS*

TAHER ALI, MBBS**

DATTA BN, MD***

A rare case of orbital tuberculosis with possible association with tubercular pericarditis in the past is described. Unusual features of a slowly progressive swelling following trauma, radiological appearances of a dermoid cyst and absence of any microorganisms in the fine needle pus aspirate misled us into not considering tuberculosis as the possible cause. Inflammatory orbital disease in a young patient with previous history of pericarditis especially in immigrants from countries with endemic tuberculosis should include tuberculosis in the differential diagnosis.

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Tuberculosis in the eye can manifest in a variety of ways and inspite of its eradication in the developed world, it continues to elude the ophthalmic practitioners with occasional odd presentations. Definitive diagnosis of ocular tuberculosis demands high index of suspicion and laboratory help at the earliest opportunity.

We have recently come across a case of a young girl who presented with slowly increasing unilateral lid swelling which turned out to be tubercular on histopathology. Since this case highlights some of the pitfalls in the diagnosis of ocular tuberculosis in daily clinical practice, it is therefore being reported.

THE CASE

A 15 year old female Indian student presented in April 1996 with gradually increasing swelling below her right eyebrow following trauma with a door handle four months earlier. The trauma was accompanied by nose bleed for three days. Examination revealed vision of 6/6 each eye. Both eyes were white and quiet and had full ocular motility. There was fullness just below the lateral one third of the right eyebrow. There was no defined mass and no local tenderness could be elicited. A plain radiograph was reported normal.

She was given a course of oral ibuprofen without any benefit. The swelling below the right eyebrow gradually increased over the next two months. She had noticed the fullness to be maximum in the morning and slowly decreased within one hour. During this time her weight had been steady and she did not have any other systemic symptoms. A full blood count at this stage did not show any abnormality. She started to have occasional pain in the eye and a well demarcated mass became palpable below the eyebrow laterally.

Slight red discolouration of the overlying skin with raised local temperature was noted. A partial mechanical ptosis of the right upper lid was present (Fig 1). The right eyeball remained white and ocular motility was not disturbed. A CT scan sug-

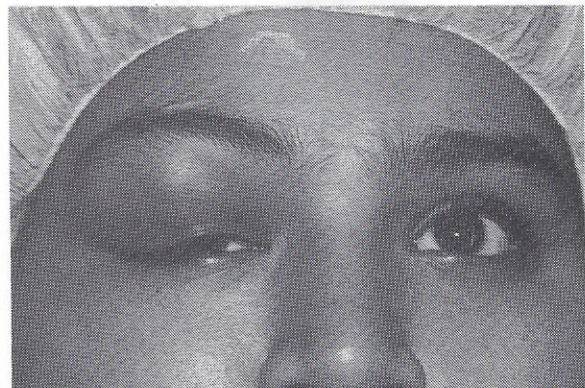


Figure 1. Right eye showing swelling below the right eyebrow involving the upper eyelid.

gested the possibility of a dermoid cyst as it showed a well demarcated thick walled cystic mass in the upper lateral region of the right anterior orbit. The surrounding bony structures were not involved and the cyst was separate from the normal lacrimal gland (Fig 2). A fine needle biopsy was performed at this stage which showed the presence of pus cells without any organisms. A search for acid fast bacilli in the yellow white pus aspirate was negative. A course of amoxicillin-clavulanic acid was given without any relief. Surgical removal of the cystic mass was performed under general anaesthesia through a skin incision below the eyebrow. The abscess wall was thick and friable. Dirty white pus was present within the cavity. The contents were aspirated and the wall was partially removed as far as possible. The abscess had reached upto the superior orbital bone which

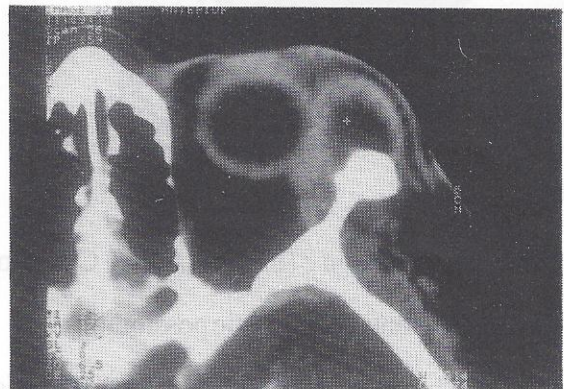


Figure 2. CT scan showing a well demarcated cystic mass in the right anterior orbit.

* Consultant Ophthalmologist
** Resident Ophthalmologist
*** Consultant Pathologist
Salmaniya Medical Complex
Ministry of Health
State of Bahrain

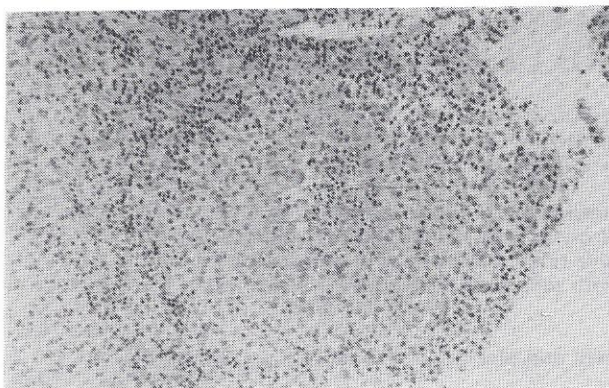


Figure 3. Photomicrograph showing granulomatous reaction forming a tubercle (HE stain X 100).

was thoroughly cleaned.

Histopathology of the excised tissue showed tubercular granulomatous reaction with occasional acid fast bacilli (Fig 3). She was referred to the physician who started her on antitubercular therapy with isoniazid, rifampicine, ethambutol and pyridoxine. She has made an excellent recovery. The lid oedema has almost subsided and she remained asymptomatic after two months of treatment (Fig 4).

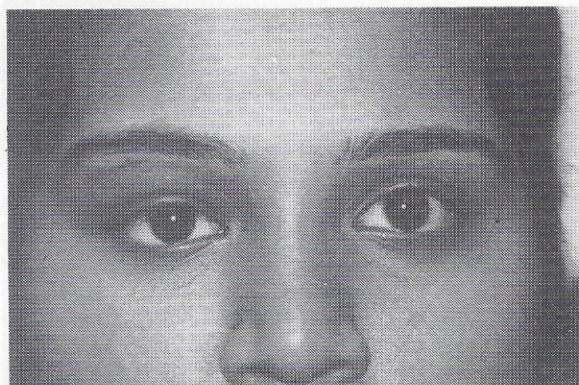


Figure 4. Right eye two months after surgery and antitubercular therapy

Record of her previous admission to the cardiac centre revealed that she had been fully investigated and treated for pericarditis two years previously. No definite cause had been found and a diagnosis of viral pericarditis / myocarditis was entertained. She had been regularly followed up and was subsequently discharged after she had made complete recovery from the pericarditis.

DISCUSSION

The incidence of tuberculosis in the developed countries has increased in the past few years possibly due to the emergency of acquired immune deficiency syndrome, drug abuse and migration of population from endemic areas¹. The most common type of tubercular involvement of the eye is cyclitis which at times can result in endophthalmitis or panophthalmitis². Interstitial keratitis, orbital abscess, dacryoadenitis, chronic indolent discharging sinus and posterior uveitis are other common ocular manifestations of active tuberculosis³.

Orbital involvement in tuberculosis is an extremely rare event. It is even more rare in adults in the absence of active pulmonary tuberculosis. The disease can affect the orbital soft tissues, lacrimal gland, periostium or even the bones of the orbital wall⁴. This can occur either as a direct spread from the surrounding areas particularly the paranasal sinuses or blood borne from a distant focus especially the lungs. Occurrence of orbital abscess in association with a tubercular pericarditis is not common⁵.

The presentation of our patient is unusual in that her symptoms were attributed to trauma only and other causes were not entertained for some time. In view of the normal previous investigations of her pericarditis, tuberculosis was not considered as a possible cause of her orbital disease and therefore tests were not directed in this direction. Absence of acid fast bacilli or other organisms in the fine needle biopsy specimen also misled us initially in this patient. Acid fast bacilli are difficult to detect in the pathological specimen due to the sclerosing nature of orbital tuberculosis⁶. Traumatic implantation dermal epithelial cyst was also considered as a possibility in view of slow progression of the lesion following injury. Occurrence of tubercular orbital abscess in our patient almost two years following treatment of her viral pericarditis is interesting. It is possible that her so called viral pericarditis in fact might have been tubercular in nature. It is quite possible that bleeding during trauma implanted the nidus for blood borne spread of tuberculosis in our patient, since CT scanning did not show any evidence of tuberculosis in the adjacent structures and even the lacrimal gland was noted to be normal. Usually slow progression of the lesion, absence of any organism in the aspirated pus and past history of pericarditis in a young girl from an area like India where tuberculosis is still endemic are points worth noting in this case. It may at times be difficult to diagnose tuberculosis of the eye but polymerase chain reaction test has been used recently to establish the diagnosis of this disease⁷.

CONCLUSION

In conclusion, this communication emphasises the fact that tuberculosis should always be considered in the differential diagnosis of inflammatory orbital disease especially in cases with odd presentations.

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