Unusual Manifestation Of Ocular Tuberculosis Presenting As Corneal Fistula

Somnath Mukhopadhyay¹, Debjani Mishra¹

Abstract

Ocular involvement of tubercular bacilli is diverse and extensive. Predominant anterior segment involvement includes interstitial keratitis, phlyctenular nodules and scleritis. We describe a rare manifestation of ocular tuberculosis presenting as corneal fistula.

Keywords: Tuberculosis; Ocular tuberculosis; Corneal fistula.

Tuberculosis is fast emerging as the most common cause of mortality and morbidity globally. It is estimated that about one-third of world’s population is currently infected with Mycobacterium tuberculosis.¹ During the last two decades with the emergence of HIV infection especially in African and in Asian countries, the incidence of extrapulmonary and multi-drug resistant tuberculosis is on the rise.² Among other organs of the body having high oxygen tension, eye is vulnerable to tuberculous infection. Ophthalmological involvement of tuberculosis is diverse and inclusive of both anterior segment (lid granuloma, scleritis, phlyctenular keratoconjunctivitis and interstitial keratitis) and posterior segment (choroidal tubercles, sub-retinal abscess, retinal vasculitis, neuroretinitis and optic neuritis) involvement.³ We present an interesting case of tubercular corneal fistula.

Case Report

A 22 year male patient presented to Institutional cornea clinic about a month ago with a history of corneal ulcer in right eye persisting for more than six weeks. He was initially treated elsewhere with a combination of topical natamycin and moxifloxacin for about a month without improvement. No history of trauma or ocular foreign-body was obtained. His presenting vision in the involved eye was 6/60 with accurate projection in all directions. Slit-lamp evaluation revealed presence of a corneal fistula near 7 o’clock area with positive Seidel’s test. A 1mm zone of cellular infiltration was seen around the fistula. Iris was incarcerated around the fistulous tract (causing a pupillary drag) with a central hole through which aqueous seepage was documented. Anterior chamber was maintained except the area of iris-adherence. Iris pigment dispersion was noted on the anterior lens capsule. No abnormal anterior chamber reaction and endothelial deposit was noted in right eye. Fundus evaluation by indirect ophthalmoscope was normal in both the eyes. Vision and anterior segment evaluation of the fellow eye was normal.

A decision was made to perform a full thickness patch graft in the right eye. Medical records of the patient revealed that he was getting anti-tubercular treatment (ATT) for pulmonary tuberculosis (PTB) in the Department of Chest Medicine of our hospital. Systemic examination revealed a high ESR but normal HIV, HBV and HCV serology. Full

Fig 1: anterior segment photograph showing corneal fistula
thickness patch graft was performed (SM) under peribulbar anaesthesia with sedation taking a donor disc that was 0.25mm larger than the zone of infiltration in the recipient corneal bed. The removed recipient button was sent for microbiological examination. He was put on topical moxifloxacin (0.5%) four times a day for two weeks and topical prednisolone acetate (1%) with a slow taper. The recipient button showed presence of Mycobacterium Tuberculosis bacilli in Z-N stain. Till the last follow-up six months after operation, he had a clear graft with no recurrence.

Discussion

Haematological dissemination of tuberculous bacilli is responsible for choroidal involvement. Granuloma formation (tuberculoma) causes lid involvement, choroidal mass lesion and sub-retinal abscess formation. Some manifestations (phlyctenulitis and interstitial keratitis) are supposed to be due to immunogenic response to mycobacterium. Due to its avascularity, cornea is immune-privileged. We may assume that absence of other known causes of corneal fistula formation (trauma, chemical insult, stem cell deficiency disorders, collagen vascular disease and hepatitis infection) in a patient on ATT for PTB along with microbiological report of recipient disc point towards tuberculous aetiology of corneal fistula formation.

References: