



Case Report / Olgu sunumu

Ocular Tuberculosis Presenting with Granulomatous Uveitis in an Adolescent Patient: A Rare Case Report

Adolesan Bir Hastada Granülomatöz Üveit ile Seyreden Oküler Tüberküloz: Nadir Bir Olgu Sunumu

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Abstract

Tuberculosis continues to be a significant global public health issue. Tuberculosis most often affects the lungs. However, children are more likely to have extrapulmonary involvement compared to adults. Ocular involvement is a rare extrapulmonary manifestation of tuberculosis. Ocular tuberculosis may affect any part of the eye and can be remain unnoticed due to the lack of clinically evident symptoms or findings, if there is no history of tuberculosis contact or other systemic signs or if these are not questioned. Here, we present an adolescent case who was diagnosed with pulmonary and ocular tuberculosis when investigating the underlying cause of granulomatous uveitis and successfully controlled with four drug regimen anti-tuberculosis and methylprednisolone treatment. In conclusion, ocular tuberculosis is an important cause of ocular morbidity. Diagnosis and follow-up require a multidisciplinary approach.

Keywords: Tuberculosis, ocular, granülomatöz, uveitis, children

INTRODUCTION

Tuberculosis (TB) is one of the leading public health threat worldwide. Childhood TB accounts for 25% of TB cases in developing countries, compared to 3-6% in industrialized countries.^[1] In general, twenty-five percentage of cases occurred in children are extrapulmonary and 75% are pulmonary.^[2,3] Ocular involvement is a rare extrapulmonary manifestation of TB. The most common forms of ocular involvement are choroiditis, chorioretinitis, choroid granuloma, optic disc granuloma, sclerokeratouveitis and interstitial keratitis.^[4]

Öz

Tüberküloz tüm dünyada önemli bir halk sağlığı sorunu olarak devam etmektedir. Tüberküloz en sık akciğerleri tutar. Ancak çocuklarda erişkinlere göre ekstrapulmoner tutulum daha yaygındır. Ekstrapulmoner tutulum içinde göz tutulumu oldukça nadirdir. Oküler tüberküloz uveal traktın tamamının inflamasyonuna yol açabilir. Oluşturduğu granülomatöz üveit hastalığa özgü olmadığı için tüberküloz temas öyküsü ya da diğer sistemik belirtiler yoksa, ya da sorgulanmazsa pratikte gözden kaçabilmektedir. Bu yazıda granülomatöz üveit nedeni araştırılır iken pulmoner ve oküler tüberküloz tanısı konularak dörtlü anti tüberküloz ve metilprednisolon tedavisi ile hastalığı kontrol altına alınan adolesan bir olguyu sunacağız. Sonuç olarak, oküler tüberküloz önemli bir oküler morbidite nedenidir. Tanı ve takibi multidisipliner bir yaklaşım gerektirir.

Anahtar kelimeler: Tüberküloz, okuler, granülomatöz üveit, çocuk

TB-related ocular inflammation occurs either through direct invasion of tuberculosis bacillus or as a result of an immunogenic reaction due to extraocular infectious foci.^[5,6] Although ocular TB involves any part of the eye, it can be remain unnoticed in the absence of clinically evident symptoms or findings, if there is no history of TB or other systemic signs. We report an adolescent case who was diagnosed with pulmonary and ocular TB while investigating the underlying cause of granulomatous uveitis.



CASE PRESENTATION

A 16-year-old girl was admitted to the ophthalmology clinic with complaints of redness, pain and decreased vision in her both eyes that had persisted for 2 months. She was referred to our clinic following diagnosis of granulomatous panuveitis. The patient history included ocular symptoms as well as cough for 2 years, which increased in the last 2 months. She had no additional systemic symptoms including fever, weight loss or sputum production. It was learned that her grandfather died 15 years ago due to TB. Her cousins had TB. In physical examination general condition was good. Other systemic examinations were normal except for redness and photosensitivity in both eyes. According to laboratory examinations, sedimentation was 51 mm/h (0-20), C-reactive protein (CRP) was 19 mg/L (0-5), and serological tests including serum rubella, cytomegalovirus, herpes simplex virus, *Toxoplasma gondii*, *Salmonella*, *Brucella*, lyme, syphilis, cat-scratch disease and tularemia were negative. The rheumatological examinations were normal. The pathergy test was negative. The TB screening of the family showed no abnormality. Dual chest x-ray and thoracic computed tomography were normal. Tuberculin skin test (TST) was 0x0 mm and Interferon-Gamma Release Assay (IGRA) was positive. Acid-resistant bacilli (ARB) was ++ positive in the gastric aspirate samples taken three times. Isoniazid, rifampicin, pyrazinamide and streptomycin were started for the diagnosis of pulmonary and ocular TB. Due to the worsening in uveitis symptoms despite anti-TB therapy methylprednisolone (2 mg/kg/day) was added to the treatment. In the first month of the treatment, eye symptoms began to improve. Four drug regimen anti-TB treatment continued for two months at the end of the first month, ARB sputum negativity was obtained and the treatment was continued with isoniazid and rifampicin. The patient is still on anti-tuberculosis treatment. Written informed consent was obtained from the parents.

DISCUSSION

Adolescent is characterized by a dramatic increase in the incidence of tuberculosis, a fact that has been appreciated since the early 20th century.^[7] The reasons for this are not completely understood, although it is thought that sex hormones, changing social contact patterns and immunological changes may each have a role.^[8] Our patient in the adolescent age group had no underlying disease. Miliary or extrapulmonary TB can arise as a result of progressive primary infection or via reactivation of a latent focus with subsequent lymphohematogenous spread. We concluded that lymphohematogenous spread was present in addition to granulomatous uveitis, since sputum was positive for ARB in our case.

Ocular TB is a rare involvement of extrapulmonary TB. The incidence of ocular tuberculosis was found to be 1.4% in a study conducted in 10,524 TB patients.^[9,10] In the literature, case reports of pediatric patients are very rare.

Ocular TB may affect any part of the eye. Ocular findings are rare in patients with extrapulmonary disease, but the most frequently seen ocular finding among reported cases was uveitis.^[11] In our case, granulomatous panuveitis was detected. In an Iraq study including 64 cases considered as tuberculous uveitis, panuveitis has been found in 116 eyes (92.1%), posterior uveitis in 6 (4.7%) and intermediate uveitis in 4 (3.2%).^[12]

Ocular TB is similar to other forms of uveitis and has no specific clinical findings. It may cause ocular inflammation. Patients may experience headache, fuzziness or eye redness, decreased visual acuity and photosensitivity.^[6] Our case was presented with complaints of eye redness, pain and decreased vision. In some studies, diagnostic criteria for tuberculosis uveitis have been established. These are given below: Living in or migrating from areas where TB is endemic, history of contact with patients infected with TB, the presence of suggestive ocular findings, exclusion of other causes of uveitis, having a positive TST or IGRA, and well response to anti-TB treatment.^[6] Our patient was diagnosed with ocular and pulmonary TB due to family history of TB, ARB positivity in sputum, IGRA positivity and granular uveitis. The laryngeal examination showed no abnormality. The fact that patient had a chronic cough has suggested pulmonary TB. Chest x-rays and CT were normal. Radiological evaluation is crucial in the diagnosis of tuberculosis. The sensitivity of chest x-ray in the diagnosis of active TB is 70-80% and its specificity is 60-70%.

Although there is no standard therapy, the recommended anti-TB treatment for ocular TB is the same as the recommended treatment protocol for pulmonary TB. In ocular TB cases, the duration of treatment is recommended between 9-12 months. Response is expected within 4-6 weeks from the start of anti-TB treatment. Inflammation and hypersensitivity reaction can be effectively suppressed with steroids added to the treatment. In our case, the findings of inflammation were controlled with steroids added to the treatment. The general approach to ocular TB patients is the onset of systemic steroids along with anti-TB treatment.^[5,12]

CONCLUSIONS

Diagnosis and treatment of ocular TB is still challenging since it can mimic several ocular diseases, the lack of standard diagnostic criteria and the uncertainty of the duration of treatment. Non-specific uveitis, TST or IGRA test positivity accompanied by clinical presentation/contact history of TB is a significant finding for the diagnosis of ocular TB.

ETHICAL CONSIDERATIONS

Informed Consent: Written informed consent was obtained from all participants who participated in this study.

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