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Letter to the Editor

Extrapulmonary Tuberculosis Presenting With Isolated Uveitis

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Dear Editor in Chief

Mycobacterium tuberculosis usually manifests as a pulmonary disease and extra pulmonary tuberculosis is less common (1). Among the patients with extra pulmonary disease, ocular manifestations are rarely reported and the affected individuals usually have concomitant pulmonary findings (1,2). Although ocular tuberculosis is potentially a curable disease, due to absence of enough data, uniform diagnostic and therapeutic protocols are not yet established (3). On the other hand, the wide range of possible diagnosis for inflammatory eye diseases may lead to a diagnostic delay (2-4).

Regarding these facts, we describe a challenging patient who was referred to our ophthalmology clinic with pain and redness in both eyes from two weeks earlier. The patient reported poor appetite and significant weight loss without any other accompanying symptoms from eight months earlier for which he was evaluated in several occasions .He had undergone brain, thoracic and abdominal computed tomography (CT) scan without any abnormal findings. Upper and lower gastrointestinal endoscopy in two different occasions were both normal. Previous laboratory studies revealed a chronic normochromic normocytic anemia (Hemoglobin: 10.7 gr/dl, Mean-Corpuscular-Volume: 90.8 fl) and increased erythrocyte sedimentation rate (ESR: 115 millimeter/hour). Lymphocyte and platelet counts were both normal. Evaluations for hematological malignancies had been shown no abnormalities. Purified protein derivative (PPD) test was reported to be 13 millimeters, which was considered positive.

In ophthalmic exam, vision was 20/50 OD and 20/200 OS. Both eyes had signs of anterior uveitis with presence of cells and flare and mutton fat keratic precipitates but left eye was more severely affected. Furthermore, vitritis and exudative choroidal detachment were evident exclusively in the left eye in both fundoscopic exam and sonographic evaluation. MRI of orbits reported thickening of lateral wall of the left globe, which was isosignal with sclera. Intra and extra conal spaces were reported to be intact.

The patient had been received topical corticosteroids for two weeks without any improvement in clinical symptoms. Regarding his positive PPD test in the absence of pulmonary and extra-pulmonary locus of infection, tuberculosis with primary choroidal involvement was considered as the probable cause of his symptoms. Accordingly, anti-tuberculosis therapy with concurrent use of anti-inflammatory medications was initiated for the patient. Subsequently the signs and symptoms of uveitis including exudative choroidal detachment of the left eye were diminished in the first month of the treatment and resolved completely throughout three months after initiation of anti-tuberculosis therapy. His systemic non-specific symptoms also disappeared afterwards.

One year after resolution of his inflammatory symptoms, the patient underwent cataract surgery for both eyes without any complications. Follow-

up visits did not show any signs of recurrence. At the current time, the patient does not have any signs of active uveitis and his vision is 20/25 OD and 20/25 OS.

As mentioned before, primary ocular manifestation of tuberculosis is a rare finding, which can mimic other infectious and non-infectious pathologies with more prevalence. Uveitis is described to be the most common presentation of the patients. Nevertheless, the disease can involve nearly any part of the eyes (2).

One of the main challenges in the diagnosis of ocular TB is the lack of feasible methods to take specimens for investigation of the acid-fast bacilli (2). PPD test is classically used for diagnosis of infection with mycobacterium tuberculosis. However, it cannot distinguish latent and active tuberculosis. In addition, immunosuppressed patients, who are highly susceptible to tuberculosis, have higher rate of false negative PPD test (2). The newer diagnostic modalities are being investigated in recent years. The use of Interferon-γ release assays have shown promising results, however they can only distinguish infection with mycobacteria from Bacillus-Calmette–Guérin (BCG) vaccination and not from latent form of infection (1,6). The polymerase chain reaction (PCR) is another method, which may be used for detecting mycobacterium tuberculosis DNA from ocular or tissue fluid (6).

The therapeutic approach for ocular tuberculosis and its potential complications is not fully established and is a matter of controversy (7,8). On the other hand, prompt diagnosis and appropriate treatment of the patients with anti-tuberculosis drugs and subsequent evaluation of therapeutic response in each individual may significantly affect the prognosis of the patients (7). Using antituberculosis therapy alone is reported as an effective therapy without increasing risk of immunosuppression (9); however, initiating antituberculosis therapy without corticosteroids may paradoxically increase the intraocular inflammation. As a result, concurrent use of anti-inflammatory medications is suggested to inhibit progressive inflammation and subsequent complications (7, 10). Although, this method should be used with caution to avoid unnecessary immunosuppression in infected patients, regarding the unavailability of newer confirmatory tests for tuberculosis in our center, we initiated anti-inflammatory and anti-tuberculosis therapy simultaneously. Our patient responded very well to anti-tuberculosis therapy with concurrent use of anti-inflammatory medication and further follow-up evaluations found no signs of recurrence or inflammatory response. To avoid any diagnostic and therapeutic delay, ophthalmologic evaluations should be considered in patients with inflammatory symptoms with no clear diagnosis.

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