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Case Report
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Extensively Disseminated Tuberculosis in an Immuno Competent Young Women Presenting as Isolated Optic Neuritis

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Abstract

Tuberculosis (TB) is the first infectious disease declared by the World Health Organization as a global health emergency. It remains the leading cause of death among infectious diseases causing more deaths worldwide than human immunodeficiency virus (HIV). The following case report highlights the occult and non specific presentations of the disease which makes it a diagnostic challenge.

We report a case of extensively disseminated tuberculosis in an immunocompetant young woman presenting as isolated optic neuritis. Extra pulmonary tuberculosis is commoner among immunocompromised patients .Co-existence of military and intracranial tuberculosis in an immunocompetent person is extremely rare.

Case Presentation

A 28 years old female patient presented with complaints of defective vision in her right eye for ten days which was sudden in onset, progressive and painful. Her best corrected visual acuity was 6/60 and 6/6 in right and left eyes respectively. Right eye showed a grade 3 relative afferent pupillary defect, painful extra ocular movements, disc edema with hyperemia (Figure 1), defective colour vision tested using pseudo isochromatic Ishihara chart and markedly depressed visual field. Left eye was normal except for poor consensual reflex. Intra ocular pressures were normal. Systemic and other cranial nerves examinations were normal. She was afebrile with no palpable lymph nodes.

Hemoglobin, blood counts, blood sugar and erythrocytes sedimentation rate were within normal limits. Her mantoux was negative.

In spite of being chest asymptomatic, with normal blood investigations, negative mantoux reaction and clinical features pointing towards demyelinating optic neuritis which is a clinical diagnosis not requiring neuroimaging for confirmation, neuroimaging was planned based on her history of worsening of vision beyond ten days. To our surprise, Magnetic resonance imaging (MRI) of brain showed multiple granulomatous lesions with ring enhancement in cerebral and cerebellar hemispheres (Figure 2). Following which computerized tomography (CT) of chest showed military mottling (Figure 3), thus confirming the diagnosis of disseminated tuberculosis. She tested negative

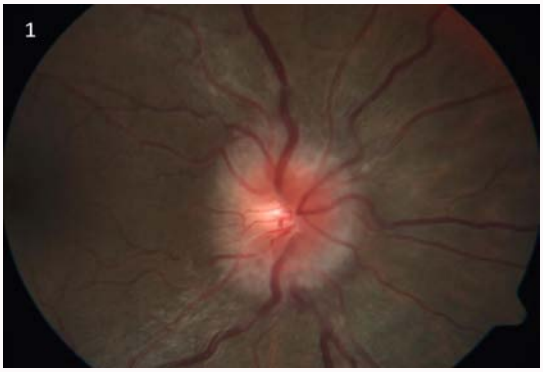

Figure 1: Right eye fundus picture showing disc edema with hyperemia and normal macula, suggestive of papillitis form of optic neuritis.

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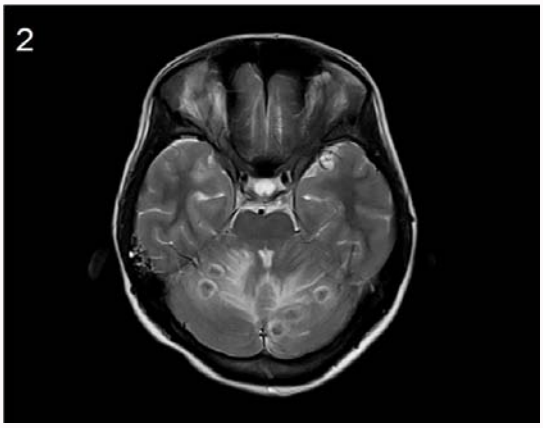

Figure 2: MRI brain showing multiple, well defined, cystic, ring enhancing lesions of varying sizes with surrounding vasogenic edema suggestive of tuberculomas.

for HIV.

Discussion

Optic neuritis defined as inflammation of optic nerve, is commonly due to demyelination associated with multiple sclerosis. It usually occurs in women less than 40 years and is characterized by acute unilateral visual loss, eye pain that worsens on movements, optic disc appearing either normal (64.7%) or swollen (35.3%) and spontaneous recovery starting within 2 to 3 weeks [1]. High dose corticosteroids fasten recovery [1]. In rare instances like our patient, occult infection can mimic demyelinating optic neuritis. If misdiagnosed, patient will either be observed for spontaneous recovery or administered high doses of systemic steroids, both of which can be disastrous.

Neuroimaging in optic neuritis is done only to predict the possibility of multiple sclerosis. In an Asian country like India where multiple sclerosis is not very prevalent, and due to poor affordability of patients, neuroimaging is not routinely done. Potentially life threatening complications of intravenous steroids in an underlying unaddressed infection like tuberculosis was avoided with the help of judicious use of neuroimaging. Although rare, TB should be considered in the differential diagnosis of apparently isolated papillitis or neuroretinitis [2]. Optic nerve involvement may be due to hematogenous dissemination, direct infection, and contiguous spread from choroid or from hypersensitivity to the infectious agent [3].

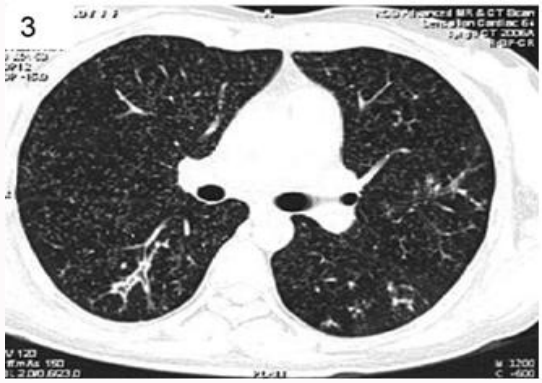

Figure 3: CT chest showing innumerable, small, wide spread pulmonary nodules suggestive of disseminated tuberculosis.

Intracranial TB usually presents with seizures, focal neurological deficits or mass effects [4]. Our patient did not have any neurological deficit other than unilateral defective vision. Negative mantoux reaction could be due to tuberculin anergy reported in miliary TB [5].

Latent miliary and intracranial tuberculosis in an immunocompetent young person presenting as isolated optic neuritis has not been reported earlier. This report highlights the rare associations of a common deadly infectious disease thus emphasizing the importance of a high index of clinical suspicion in our present era of globalization.

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