SPINALCORD TOXOPLASMOSIS AS AN UNUSUAL PRESENTATION OF AIDS- CASE REPORT
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Abstract:
Approximately 10 percentage of patients with AIDS present with some neurological deficit as their initial complaint, and up to 80 percentage will have CNS involvement during the course of their disease. Toxoplasmosis is the most common cause of cerebral mass lesions in patients with AIDS, but appears to be an uncommon cause of spinal cord disease. The post mortem studies in AIDS patients show that the incidence of myelopathy may be around 50 percent. This case is presented for its uniqueness as a case of spinal cord disease as the initial presentation of AIDS.

Keyword: AIDS, Spinal toxoplasmosis

Introduction:
Although spinal cord abnormalities in patients with acquired immunodeficiency syndrome (AIDS) have been infrequently reported in the literature, myelitis is a known complication of AIDS and is occasionally the initial complaint. The incidence of myelopathy may be as high as 20%, with 50% of the cases reported post-mortem [3, 5]. A review of existing literature suggests that although Toxoplastic myelitis is uncommon, it should be suspected in immune compromised patients who present with symptoms of acute or sub-acute myelopathy [7]. The initial evaluation should aid in differentiating between other reported causes of myelopathy (such as vacuolar myelopathy, lymphoma, tuberculosis, and viral infections including cytomegalovirus infection, herpes zoster, and herpes simplex) in AIDS patients [6, 4]. Since 1986, 18 cases of apparent toxoplasmosis of the spinal cord have been described [4, 7, 8, and 9].

Case report:
A 34 years old male admitted in the medical ward with H/O progressive weakness of all 4 limbs of 6 months duration and Bladder incontinence of 2 weeks duration without history of seizures, sensory impairment. There was no history of trauma, fever or any other constitutional symptoms. He had no history of any systemic illness and his HIV status was unknown at the time of admission. Physical examination revealed distended bladder that required catheterization. No rash, erythema, oral lesions, lymphadenopathy, or papilledema was noted. Neurological examination showed Dysarthria, UMN type of facial nerve palsy on right side and diminished palatal movements on right side. The motor system examination showed, UMN type of weakness in all 4 limbs with sensory and bladder involvement.

MRI of brain and whole spine revealed multiple ring enhancing lesions in the brain parenchyma and a solitary lesion of 3 X 2 X 2.5 cm size at C1-C2 level extradurally. As the lesions were multiple, we evaluated further through ICTC (Integrated Counselling and Testing Centre) and found HIV 1 & 2 POSITIVE. An anti-toxoplasma immunoglobulin (Ig G) immune titre was HIGH POSITIVE at 172 U/ml [ below1.6 IU/ml negative; above 3 IU/ml positive].

MRI shows extradural compressive ring enhancing lesion at C1-C2 level

MRI shows brain parenchymal lesion
Toxoplasmosis and HAART. After one week of treatment with 

SPINALCord TOXOPLASMOSIS PRESENTING AS A CERVICAL 

MRI shows extradural ring enhancing lesion at C1-C2 level 

Biopsy was deferred due to possible complications. And the final diagnosis was made as “HIV DISEASE / BRAIN AND SPINALCord TOXOPLASMOSIS PRESENTING AS A CERVICAL MYELOPATHY”. The patient was started with treatment for toxoplasmosis and HAART. After one week of treatment with Pyrimethamine and Sulfadiazine, patient showed clinical improvement in the form of diminished motor symptoms. 

Discussion: 

AIDS-related spinal cord disorders include vascular myelopathy, neoplasms, infections (including HIV itself) and vascular disease. Toxoplasmosis and Lymphoma are the two most common intracranial lesions, and both have been reported in increasing frequency in the spinal cord. Myelopathy is usually under-diagnosed, probably because of the occurrence of coexisting conditions such as AIDS dementia complex (ADC), cerebral lesions of varying etiologies, vascular myelopathy, lumbosacral myelopathy, or peripheral neuropathy that may mask the clinical signs suggestive of myelopathy. Spinal cord lesions often manifest with a variety of symptoms, such as leg weakness, progressive paraparesis with spasticity, absent reflexes, ataxia, incontinence, and paresthesias. In the 14 toxoplasmosis cases with spinal cord involvement reviewed by Vyas and Ebrigt, they found the most common presentations of acute or sub-acute symptoms were paraparesis, urine retention, sensory level deficits, fever, and local pain. In the patients evaluated by spinal cord MRI imaging, localized intramedullary lesions or spinal cord oedema were found in more than 90% of cases associated with positive T. Gondii Ig G antibody. More than 97% of patients with AIDS and Toxoplasmosis have Ig G antibody to T.gondii in serum. Ig M antibody is usually not detectable. [1]. Complete radiographic imaging of the entire neuroaxis is key in clearly defining inflammatory lesions of the brain and spine, and in the visualization of typical lesions that allow for rapid diagnosis. If spinal cord enlargement is present, toxoplasma myelitis and lymphoma should be strongly considered. MRI (plain and contrast-enhanced) is currently considered appropriately sensitive for detecting brain and spinal cord lesions. 

The newer and more available MRI techniques of diffusion-weighted imaging (DWI) may be of help in the differentiation of lymphoma, showing no restriction in water diffusion. If a diagnosis of solitary or atypical lesions cannot be made with non-invasive methods, a biopsy (open or stereotactic) may be warranted in patients with concomitant negative toxoplasmosis serology since a negative serology does not exclude diagnosis of toxoplasmosis nor differentiate from lymphoma. A biopsy may also be considered necessary if a patient experiences a rapid decline in function or, alternately, fails to improve despite therapy [1, 10]. Brain biopsies have been associated with haemorrhage risk and an increased mortality (2%) and morbidity rate (12%) in patients with HIV/AIDS. The estimated rate of non-diagnostic brain biopsies ranges between 4–36% [11]. 

Empiric treatment for toxoplasmosis with oral pyrimethamine and sulfadiazine with Leucovorin has been recommended in all cases of intracranial mass lesions in patients with HIV/AIDS (except in a solitary mass with negative toxoplasma serology). It is also believed to be beneficial when there is spinal cord involvement [6]. Steroids promote radiological improvement in about 80% of patients, and improvement can be seen in about 1 week, supporting the diagnosis [12]. Patients are usually monitored clinically and radiographically for response to treatment over a 10- to 14-day period following empiric therapy. If responsive, anti-toxoplasmosis therapy is continued indefinitely, and re-evaluation in the absence of steroid treatment is mandated. If the lesions remain unchanged or progress, the definitive diagnostic procedure is brain biopsy. 

In this case, the brain and spinal cord lesions were found in an HIV-positive man who had not previously been diagnosed. For this reason, other causes of CNS infection and lymphoma were first considered. After the positive serology, empiric treatment for cerebral toxoplasmosis was initiated. The patient’s clinical improvement led to the final diagnosis of toxoplasmic myelitis and encephalitis, similar to other cases documented in the literature by Vyas et al. in 1996 [4]. Acute myelopathy was one of the first manifestations of AIDS in this patient. Many patients with neurological disease are unaware of their HIV status. Appropriate diagnostic methods and management that are practical for all settings, including those with limited technologies, should be sought. Newer methods of diagnosis and management for all neurological complications of HIV should be addressed. We established our diagnosis based on the clinical manifestations, history, and general improvement of the patient’s condition. Although spinal cord toxoplasmosis is uncommon, it has been suggested that most patients with AIDS that present with evolving myelopathy, characterized by extremity weakness, sensory involvement, spinal cord enlargement, and enhancing lesions in brain or spinal cord CT or MRI, have toxoplasmic myelitis [5, 5]. The likelihood of diagnosis increases if serum titres for Toxoplasma antibodies are positive or where the initiation of early treatment with empiric anti-toxoplasmosis therapy and steroids improves both the patient’s clinical and radiographic manifestations. 


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