Digital Journal of Clinical Medicine

Volume 2 | Issue 4 Article 10

1-1-2020

Tuberculoma presenting as Paradoxical IRIS in a HIV positive patient

Dr. Supritha Chintamaneni
JSS AHER

Dr.Rajendra Prasad S
JSS AHER

Dr.Bhanukumar M
JSS AHER

Dr.Adarsh L S
JSS AHER

Tuberculoma presenting as Paradoxical IRIS in a HIV positive patient

Dr. Supritha Chintamaneni, Dr.Rajendra Prasad S, Dr.Bhanukumar M, Dr.Adarsh L S, Dr.Nandini K

CLINICAL HISTORY:

A 38-year-old male patient hailing from Mysuru district came with complains of fever and headache of 3 days uration. He is a known case of RVD. 3 months back he was diagnosed to be having TBM along with CMV Retinitis. SF CBNAAT was positive. Fundoscopy showed features of CMV Retinitis. The patient was started on ATT according to RNTCP guidelines. Patient was also initiated on Valgancyclovir for CMV Retinitis. There was a significant improvement in patient's condition.

Patient was referred to ART centre for further management. Patient CD4 count was 12. ART was initiated after 3 onths of starting ATT. After 1 week of starting ART, patient presented with the above symptoms. No H/O cough, breathlessness or Gastro Intesinal symptoms.

EXAMINATION AND INVESTIGATIONS:

A middle-aged man moderately built and nourished is alert, conscious and co-operative. Oriented to time, place and person. No pallor/icterus/clubbing/cyanosis/lymphadenopathy/edema.Vitals stable.

Central Nervous System:Higher mental function-Intact

Motor System-Normal Cranial Nerves

Fundoscopy: Choroid tubercles noted in the superotemporal quadrants of both the eyes.

Rest of the findings were normal.Bilateral pupil equally reactive No signs of cerebellar dysfunction

No signs of meningeal irritation

CVS: S_1S_2 heard, no murmurs

Respiratory System: B/L Normal vesicular breath sounds, no added sounds

Per Abdomen: Soft, non-tender, no organomegaly

Hb-13.6 gm/dl

TLC-6310 cells/cumm

Platelet-2.8 lakh/cumm

Neutrophils-51%

Lymphocytes-42.5%

ESR-60mm in 1 Hr

MRI Brain (plain+contrast) Multiple homogenously enhancing nodular lesions in the bilateral cerebral & cerebellar

hemispheres, capsuloganglionic region of the thalamus, body of corpus callosum and brainstem.

FINAL DIAGNOSIS:

The following differential diagnosis were considered in view of RVD status, low CD4 count and ring enhancing shadows in the MRI of the brain.

a.Neurotoxoplasmosis

b.Brain metastasis

c.Neurocysticercosis

d.Brain abscess

e.Tuberculoma

f.CNS Lymphoma

Final diagnosis –

TUBERCULOMA(PARADOXICAL IRIS)

TREATMENT:

Since the patient was a known case of Tuberculosis, a high probability of Tuberculosis was considered and ATT was continued. ART was also continued along with steroids.

-Anti Tubercular Treatment-Anti Retroviral Treatment-

TAB.COTRIMOXAZOLE PO 1-0-0

-TAB.DOLO 650mg PO 1-1-1–

INJ DEXAMETHASONE 4mg IV 1-1-1 –

Tab.VALGANCICLOVIR 450 mg 2-0-2 for 21 days and later 2-0-0

DISCHARGE TREATMENT:-Continue ATT-Continue ART-TAB.CO – TRIMOXAZOLE PO 1-0-0-TAB.DEXAMETHASONE 0.4mg/kg/day for 6 weeks and gradually tapered-

CAP. PANTOPRAZOLE 40 mg 1-0-0-Continue

TAB. VALGANCICLOVIR 2-0-0

DISCUSSION:

The immune reconstitution inflammatory syndrome (IRIS; also known as immune reconstitution disease,

immune reconstitution syndrome, or immune restoration disease) is a widely recognized phenomenon that can complicate antiretroviral therapy (ART)[1,2]. The infectious pathogens most often seen in the syndrome are mycobacteria, varicella zoster, herpesviruses, and cytomegalovirus (CMV)[3].

There are two common IRIS presentations in HIV-infected persons that both occur in the first months after commencing ART which are paradoxical IRIS and unmasking IRIS[4,5]. In paradoxical tuberculosis-associated IRIS, patients are known cases of active TB and have shown improvement in their health condition upon initiation of ATT. Following initiation of ART, IRIS can present as recurrent, new, or worsening symptoms or signs of tuberculosis such as fever, return of cough, or lymph node enlargement, or recurrent, new, or deteriorating radiological

manifestations. Risk factors include more advanced HIV disease with lower CD4 cell count, disseminated and extrapulmonary tuberculosis, a shorter delay between the start of tuberculosis treatment and initiation of ART (ideally 4– 6 weeks[6]), and a more vigorous immunological and virological response to ART[7].

It may manifest as meningitis, brain tuberculomas, brain abscesses, radiculomyelitis, and spinal epidural abscesses[8,9,10,11]. Unmasking IRIS occurs due to missed diagnosis of TB that can be seen in patients(highly immunocompromised) with inherent insensitivity of tuberculosis, an active subclinical disease at the time of ART initiation and presentation of symptomatic disease might result from ART-induced restoration of an immune response against Mycobacterium tuberculosis antigens that results in inflammation. [7].

In both situations, the immune system is rapidly adapting from an inadequate response to an escalated inflammatory response toward the pathogen[4,5].The diagnostic approach to neuro-TB-IRIS suspects should focus on the exclusion of other causes for worsening, such as poor adherence to TB drugs, drug reactions or toxicities, infection with a TB drug-resistant strain, and an uncommon or additional opportunistic etiology [7].

The management of IRIS is symptomatic. In case of TBM- IRIS,ATT and ART are continued and to reduce the inflammation steroids are started. The Choice of steroid is Dexamethasone. According to Thwaite study, Dexamethasone has a good anti -inflammatory effect and reduces the mortality, though has got minimal effect in

preventing neurological disability[12].

REFERENCES:

1.Hamill RJ. The immune reconstitution inflammatory syndrome. AIDS reviews. 2003;5(2):67-79

2.French MA, Price P, Stone SF. Immune restoration disease after antiretroviral therapy. Aids. 2004 Aug 20;18(12):1615-27

3.Murdoch DM, Venter WD, Van Rie A, Feldman C. Immune reconstitution inflammatory syndrome (IRIS): review of common infectious manifestations and treatment options. AIDS research and therapy. 2007 Dec;4(1):1-0

4.Rammohan KW, O'Connor PW, Ortega MR, Delgado SR, Tornes L. Disease activity return during natalizumab treatment interruption in patients with multiple sclerosisAuthor Response. Neurology. 2011 Nov 22;77(21):1930-1

5.Narayanan S, Banerjee C, Holt PA. Cryptococcal immune reconstitution syndrome during steroid withdrawal treated with hydroxychloroquine. International Journal of Infectious Diseases. 2011 Jan 1;15(1):e70-3

6.Török ME, Yen NT, Chau TT, Mai NT, Phu NH, Mai PP, Dung NT, Chau NV, Bang ND, Tien NA, Minh NH. Timing of initiation of antiretroviral therapy in human immunodeficiency virus (HIV)–associated tuberculous meningitis. Clinical infectious diseases. 2011 Jun 1;52(11):1374-83

7.Meintjes G, Lawn SD, Scano F, Maartens G, French MA, Worodria W, Elliott JH, Murdoch D, Wilkinson RJ, Seyler C, John L. Tuberculosis-associated immune reconstitution inflammatory syndrome: case definitions for use in resource-limited settings. The Lancet infectious diseases. 2008 Aug 1;8(8):516-23

8.Marais S, Meintjes G, Pepper DJ, Dodd LE, Schutz C, Ismail Z, Wilkinson KA, Wilkinson RJ. Frequency, severity, and prediction of tuberculous meningitis immune reconstitution inflammatory syndrome. Clinical infectious diseases. 2013 Feb 1;56(3):450-60

9.Pepper DJ, Marais S, Maartens G, Rebe K, Morroni C, Rangaka MX, Oni T, Wilkinson RJ, Meintjes G. Neurologic manifestations of paradoxical tuberculosis-associated immune reconstitution inflammatory syndrome: a case series. Clinical Infectious Diseases. 2009 Jun 1;48(11):e96-107

10.Agarwal U, Kumar A, Behera D, French MA, Price P. Tuberculosis associated immune reconstitution inflammatory syndrome in patients infected with HIV: meningitis a potentially life threatening manifestation. AIDS research and therapy. 2012 Dec 1;9(1):17

11.Vidal JE, Cimerman S, Schiavon Nogueira R, Bonasser Filho F, Sztajnbok J, Silva PR, Lins DL, Coelho JF. Paradoxical reaction during treatment of tuberculous brain abscess in a patient with AIDS. Revista do Instituto de Medicina Tropical de São Paulo. 2003 Jun;45(3):177-8

12.Thwaites GE, Bang ND, Dung NH, Quy HT, Oanh DT, Thoa NT, Hien NQ, Thuc NT, Hai NN, Lan NT, Lan NN. Dexamethasone for the treatment of tuberculous meningitis in adolescents and adults. New England Journal of Medicine. 2004 Oct 21;351(17):1741-51