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Dr. Supritha Chintamaneni
*JSS AHER*

Dr.Rajendra Prasad S
*JSS AHER*

Dr.Bhanukumar M
*JSS AHER*

Dr.Adarsh L S
*JSS AHER*



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# Tuberculoma presenting as Paradoxical IRIS in a HIV positive patient


## Keywords

HIV

# 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].

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