



## A RARE CASE OF MENINGIOENCEPHALITIS WITH CO-INFECTION OF HSV WITH SCRUB TYPHUS

### Medicine

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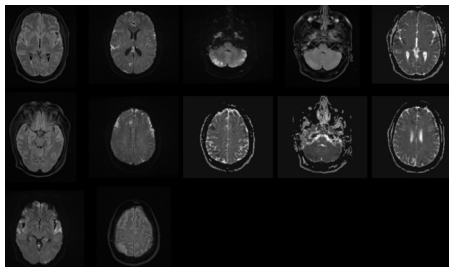
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### KEYWORDS

#### INTRODUCTION

Acute encephalitis is defined as a recent history of fever with change in mental status including confusion, disorientation, coma or inability to talk and/or new onset of seizures. The most common causative viral agents are herpes simplex(hsv-1), Japanese encephalitis, dengue, enteroviruses, Epstein-barr virus(EBV), tickborne encephalitis, human herpesvirus(HHV-6), and west Nile virus. Scrub typhus, cerebral malaria, acute pyogenic meningitis and non infectious causes of encephalopathy need to be excluded while considering AES. Diagnosis is made by a combination of clinical, laboratory, neuroimaging and electrophysiologic findings.



Mri showed multifocal peripheral cortical areas of t2 flair hyperintensities, showing restricted diffusion on dwi and corresponding defect on adc in bilateral cerebral Hemispheres & bilateral cerebellar hemispheres – suggest possibility of hypoxic ischemic insult ?? Viral encephalitis

#### Case Report

A 52year-old lady with no previous Co-morbidities, presented in a gasping state with a h/o single episode of fever, otalgia and headache 2days prior to admission that got relieved on medication and was associated with altered sensorium since one day. Physical examination showed bp of 70/50 mm Hg, resp rate of 28/min and PR of 110/min and did not have any eschars. She was immediately intubated and put on mech ventilation. Her neurologic examination revealed GCS to be E2V1M3 that ranged from a stupor to a semi-comatose state, pupils being bilaterally equal and reactive to light and b/l plantar extensor. Other systemic examination was normal. A provisional diagnosis of acute febrile encephalopathy was made with etiology being unknown. On investigations, CBC showed HB 11.3 gm/dl, TLC of 2500 cells/mm cube (neutrophil 83%, lymphocytes 15%) and platelets 1,02,000/cumm RFT, ABG and RBS were normal with mildly elevated liver enzymes total bil-2.8mg/dl, direct bil 1.6mg/dl, ast/alt 75/59u/l. CSF revealed TLC 36 /cumm(Mononuclear cells – 50%,polymorphs-50%) and RBC 702cells/Cummins with proteins >250 mg/dl and sugar <10mg/dl. Blood culture showed growth of staphylococcus haemolyticus. In view of hemogram showing leukopenia, thrombocytopenia, tropical fever profile was done that revealed scrub Igm positive so on the basis of csf findings pyogenic picture and scrub encephalitis was made and patient was started on empirical antibiotics and inj doxycycline while HSV-1 PCR was awaited that later came out to be positive. Patient was also started on inj acyclovir. In view of ICP hypertonic saline was given.Repeat CSF was done after 14days of treatment revealed TLC 25 (neutrophils 95%, lymphocytes 05%), without red blood cells with protein level 82.2 mg/dL, glucose 107 mg/dL (the synchronous serum value was 110 mg/dL), CSF Indian ink, acid-fast bacilli were negative and CSF bacterial and fungal cultures were sterile. Repeat

mri also showed no increase in lesions, patient was then tracheostomised and gradually weaned off from ventilator. In one month of hospitalisation, her sensorium improved to conscious, responsive to verbal stimulus but not oriented. She was discharged and kept on regular follow ups.within 2months she improved completely and is able to perform her daily activities.

Followup mri in opd showed no fresh lesions with decrease in the size of previous lesions with significant improvement in the DWI and ADC signal noted.

#### DISCUSSION

HSV encephalitis (HSE) is a life- threatening infection of the central nervous system (CNS) with mortality rates of upto 70% in the absence of therapy. Antiviral therapy is most effective when commenced early, hence highlighting the importance of prompt diagnosis. Patients typically have malaise, irritability, and nonspecific symptoms lasting 1-7 days followed by acute onset of fever and focal neurologic signs. Untreated HSE is progressive and often fatal in 7-14 days. Similarly, the important neurological manifestations of scrub typhus are meningitis, meningoencephalitis, seizures, and altered sensorium and rarely focal neurological deficits. There is limited literature on the neuroimaging finding of scrub encephalitis, except a single report of MRI brain showing small ring enhancing lesions in the corpus callosum and hyperintensities on FLAIR and T2- weighted sequences in periventricular and deep white matter regions of the brain.

In our case also, patient presented with short duration of symptoms with very poor gas where both first CSF picture (pyogenic) and mri brain (not typical of viral encephalitis) were not in favour of HSV, but use of HSV PCR along with subtle hints in hemogram led to the diagnosis of co-infection of scrub typhus with HSV. There are not any case reports regarding same. Here, we want to highlight the point, that patient will not always have the typical findings of disease to suggest the diagnosis. Clinical, microbiological and radiological findings all compiled up led to making over diagnosis and treating the patient.

This case highlights the need to rule out dual infection if there is no improvement.

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