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Case Report

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A CASE OF TEMPORAL LOBE INTRACRANIAL SPACE OCCUPYING LESION MIMICKING AS HERPES SIMPLEX VIRAL ENCEPHALITIS

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ABSTRACT

We report a case of 60-year-old man with intracranial space occupying lesion presenting as acute encephalitic illness. The patient presented with fever, abnormal behaviour and generalized tonic clonic seizures. Initial brain MRI showed left temporal lobe hyper intensity and Cerebrospinal fluid cytology revealed no cells with mild elevated protein. The patient had initially improved after medical treatment with a presumptive diagnosis of herpes simplex encephalitis (HSE). After 8weeks, the patient complained of recurrent seizures and altered sensorium. A follow- up brain neuroimaging (MRI) revealed marked increases in size and surrounding perilesional edema of the left temporal lesion on T2-weighted images and a new contrast-enhancing lesion on gadolinium -enhancedT1-weighted images. Stereotactic brain biopsy was planned.

KEYWORDS: Intracranial space, clonic seizures, perilesional edema.

INTRODUCTION

Herpes simplex encephalitis has an incidence of one case per 250,000 to 500,000 persons per year and is the most common sporadic fatal encephalitis is in the Western world.[1] It typically presents with headache, fever, and confusion developing over hours todays. Focal neurological findings including hemiparesis, cranial nerve deficits, visual field loss, and dysphasia. Focal or generalized seizures may also be seen.[2] Patients can exhibit behavioural changes with Personality changes and psychosis. Brain neuroimaging shows hypodense lesions of the temporal lobe and orbito frontal regions and May demonstrate mass effect. Petechial haemorrhage may not always be observed on neuroimaging Computer Tomography,[3,4] T2-Weighted MRI reveals hyperintensity corresponding to edematous changes in the temporal lobes, characteristically sparing the basalganglia.T1-weighted images show hypointense signal in the affected areas, and meningeal enhancement may be demonstrated following the administration of gadolinium.[5] When CSF (cerebrospinal fluid) can be obtained, it shows mononuclear cell pleocytosis in 97% of cases, typically with a mildly elevated protein and a normal glucose.[2] Polymerase chain reaction (PCR) assays Performed on specimens from patients with brain biopsy-proven herpes simplex encephalitis revealed diagnostic sensitivity of 98% at the time of clinical presentation as well as a specificity. Approaching 100%.[6] Of note, negative PCR assay for HSVDNA on the first or second day of Illness may become positive on testing of a subsequent CSF specimen.[7] Gliomas also demonstrate MRI findings of hypointensity on T1 images and hyperintensity on T2 images. Discrete haemorrhage is more typically seen in tumor than HSE. Gliomas can be focal, diffuse, or multifocal. Though usually absent, minimal enhancement can occasionally be seen in glioma. The clinical features of viral encephalitis, namely headache, fever, seizures, and encephalopathy, may be seen in patients with high-grade gliomas.[8] In cases where imaging is ambiguous and CSF is not available, biopsy may ultimately be needed to make a diagnosis.

CASE DISCUSION

60 years old male presenting to medical causality of Government Medical Collage Srinagar with history of fever from 8 Days and abnormal behaviour 4 days and two episodes of generalized tonic clonic seizures On Examination patient was in postictal state with high grade fever 101.6 f, neck rigidity was Present with kerning sign positive, while cranial nerve dysfunction, limbs weakness or sensory Loss was absent. On chest examination bilateral coarse crepitation's where present while cardiovascular system was normal. Non Contrast CT brain was suggestive of age related cortical atrophy. Cerebrospinal Fluid analysis showed Total Leucocyte Count; zero /mm3, Sugar;.83 mg/dl, Protein;153 mg/dl, Adenosine Deaminase (CSF – ADA 8 IU/l, xanthocromia; .negative and Cerebrospinal fluid CSP – PCR HSV was send for analysis Empirical diagnosis was

made of HSV Enceplities .Patient was managed empirically as viral encephalitis and was Managed with injection of acyclovir 30mg/kg/day in divided doses, injection phenytoin 1omg/kg/day, injection clindamycin 600mg iv three times per day, injection ceftriaxone1gm iv twice daily. On day second patient continued with high grade fever And altered behaviour Contrast Enhanced MRI brain was obtained showing hyper intensities in left temporal region.

Electro Encephalograph (EEG) was performed. Which was normal, however patient persistent with fever and HSV PCR came negative on 5th day of admission. Patient was given complete14 day course of antiviral (acyclovir) and anticonvulsants (phenytoin). During 14 days of treatment patient showed recovery, fever subsided, sensorium improved and patient was discharged. However after 8 weeks of treatment patient got admitted in causality with altered sensorium and seizures. A follow up CEMRI showed a new contrast enhancing lesion suggestive of intracranial space occupying lesion and patient was planned for brain biopsy. But patient refused and was given symptomatic treatment with antiepileptic's and steroids. Patients did not improved and died during hospital stay.

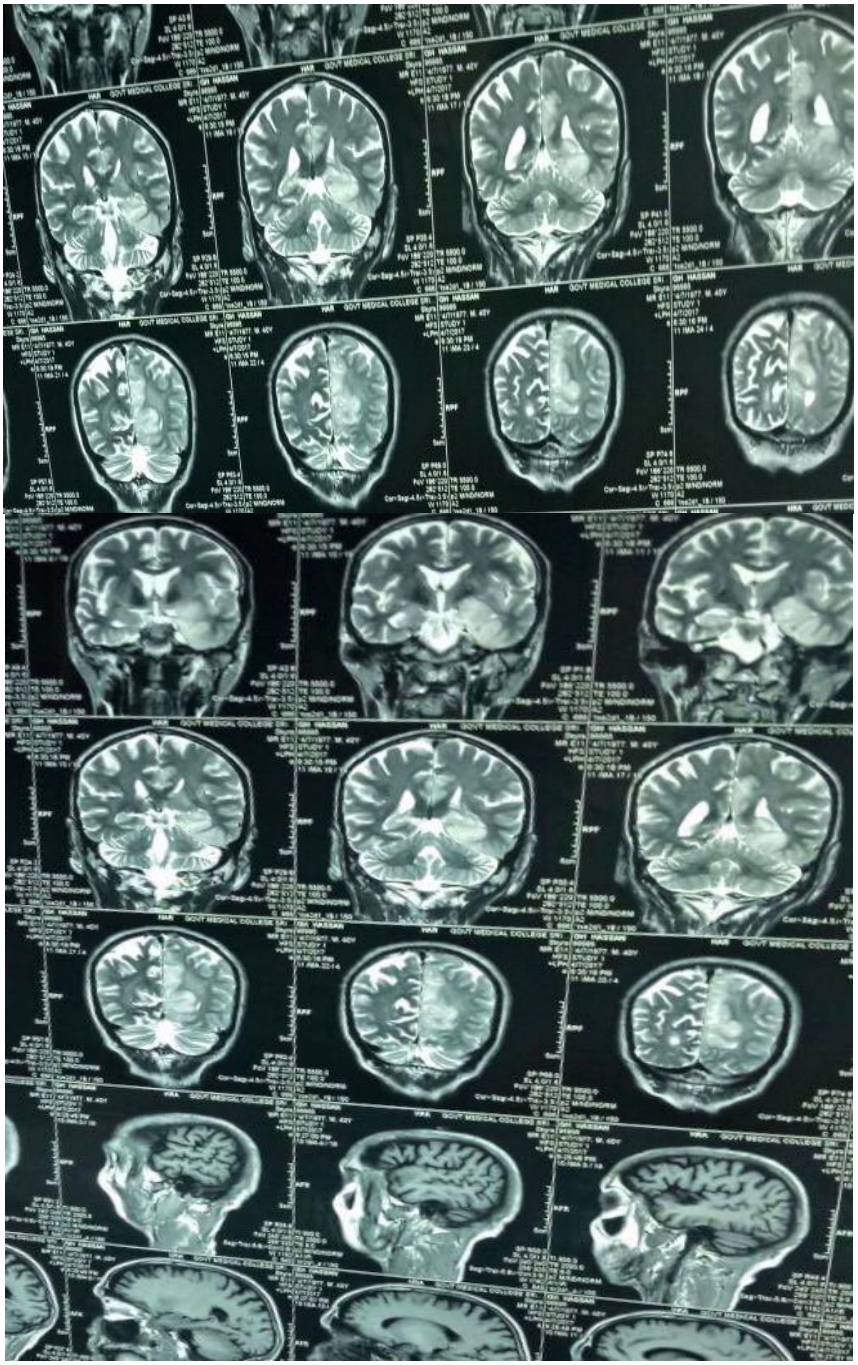

Figure 1: showing initial MRI of patient with T2WI show hyper intensity involving the left medial temporal lobe and thalamus with mild mass effect on the ipsilateral lateral ventricle.

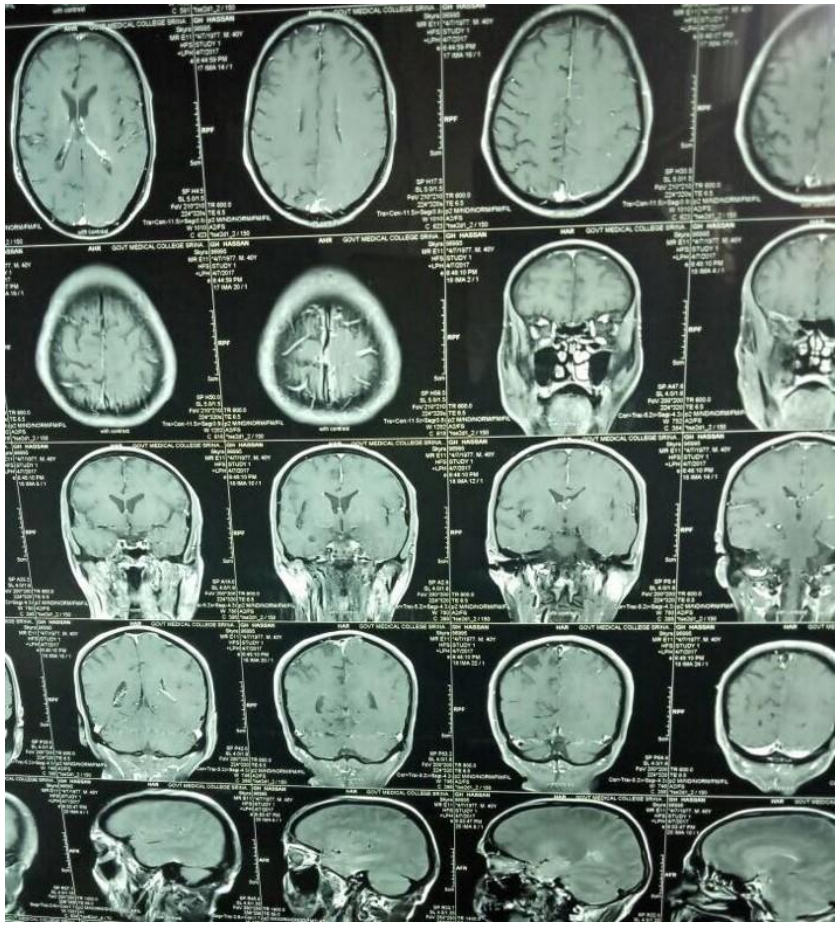

Figure 2: showing initial MRI post contrast images with no significant post contrast enhancement.

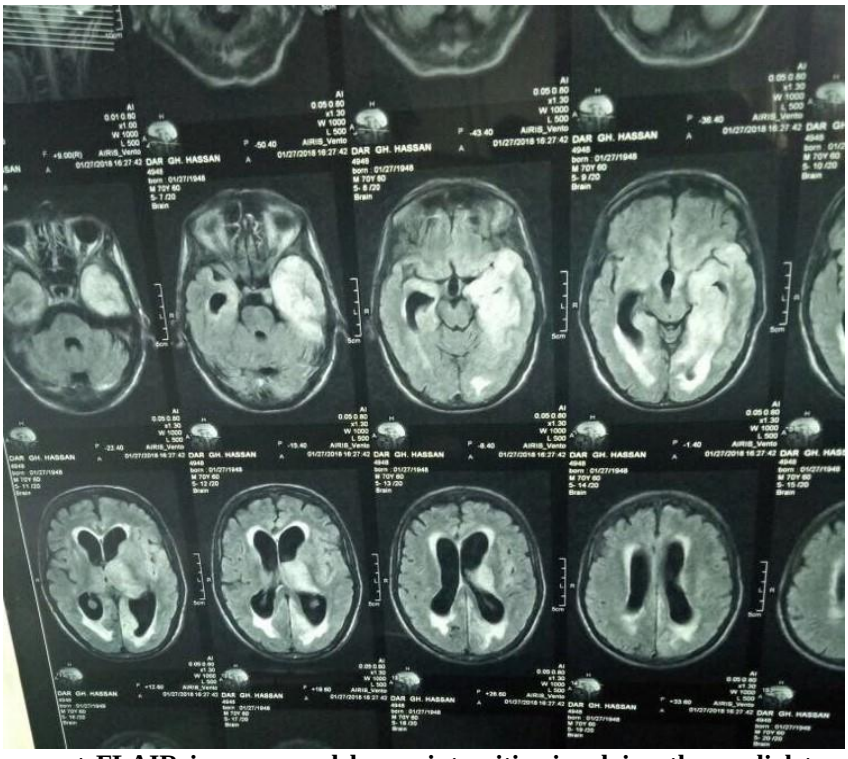

Figure 3: Showing repeat FLAIR image reveal hyper intensities involving the medial temporal lobe, insular cortex and left thalamus with mild mass effect. Ischemic changes are seen bilaterally in periventricular white matter.

DISCUSSION

This case highlights unusual central nervous system (CNS) manifestations in a patient with Temporal lobe intracranial space occupying lesion The presenting encephalitic symptoms, CSF Analysis, brain MRI and are suggestive of HSV Enceplities However, similar clinic radiological findings for Intracranial space occupying lesion and HSE, can lead to delay in the diagnosis and treatment of patients, and thus resulting in significant cerebral morbidity and poor prognosis.

The HSV-PCR assay of the CSF is an invaluable test in the diagnosis of the patient with Suspected HSV Enecephilities. However, it sometimes may remain false-negative in the acute phase of HSV Encephalitis because the intensity of the PCR product in earlier CSF sample is weak,[10] that was the reason,

The negative result of the HSV-PCR assay in our case was over looked and acyclovir continued. The patient improved at the time of discharge .Sometimes Primary and metastatic brain tumors, Including glioblastoma can present as acute encephalitis or encephalopathy ,although the Frequency is very low .Ginsberg and Compton,[11] reported that 1(1.5%) out of 65 patients with Acute encephalitis actually had a brain tumor (oligodendro glioma). Whitley et al.[12] reported that 5 (5.3%) of 95 patients who were biopsy-negative for HSE had brain tumors ,of whom 3 had Primary CNS tumors (2 patients with glioblastomas and 1 patient with primary CNS lymphoma) And 2 had metastatic colon adenocarcinoma. Further, Reesand Howard,[13] reported 3 patients with high grade gliomas mimicking acute viral encephalitis. They suggested that stereotactic. Brain biopsy should be considered in patients with temporal lobe masses if a definitive diagnosis using PCR assays for common viruses is unavailable If we had performed stereotactic brain biopsy on our patient based on the initial CNS manifestations, Functional deficits

Would have been much less MRI, 18 F-FDG-PET, and Proton-MR spectroscopy (MRS) Scans of the brain are commonly done in the work-up of patients who appear clinically to have had a brain tumor.

CONCLUSION

Intracranial space occupying lesion (brain tumours) may present as acute encephalopathy with Temporal lobe involvement by brain imaging .There- fore follow-up with short repeat brain Imaging as well as stereotactic biopsy is necessary in patients with temporal lobe masses if Definite evidence for the diagnosis of Herpes Simplex Encephalitis cannot be obtained.

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