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Cysticercotic Encephalitis: A Case Report

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Abstract- Although encephalitic presentation of cysticercosis is rare, it should be included in differential diagnosis of acute encephalitic cases especially in endemic countries like India. Cysticercotic encephalitis is commonly seen in young females who typically present with features of raised intracranial pressure along with compromise of visual function. Early diagnosis and appropriate therapy can result in better outcome in this rare but commonly fatal neurological disorder.

Index Terms- neurocysticercosis encephalitis intracranial hypertension cortical blindness

I. Introduction

To our knowledge, this is the first report of a case of cysticercotic encephalitis in a child with few parenchymal lesions unlike previous rare reports of encephalitic presentation with miliary neurocysticercosis.

It re-emphasis that neurocysticercosis should be included in differential diagnosis of acute encephalitic cases especially in endemic countries like India.

It demonstrates the safety of cysticidal therapy even in presence of raised intracranial pressure caused by neurocysticercosis.

Cortical blindness is rarely reported as presenting feature of neurocysticercosis.

II. Case Summary

An 8 year old girl presented with complaints of bilateral frontal headache for 10 days, progressive loss of vision for last 4 days, one episode of seizure (right complex partial seizure) followed by altered sensorium 15 hours prior to admission. There was no history of seizures in the past, trauma, recent immunization, ear discharge or tuberculosis contact. The child on admission was afebrile, had GCS E2M3V2 along with frequent tonic posturing. Her pupils were normal in size and reacting normally to light. There were no signs of meningeal irritation. On motor examination, all four limbs had power of grade III/V, exaggerated deep tendon reflexes and right extensor plantar response. Rest of the systemic examination was essentially normal. Fundus examination revealed bilateral papilledema.

The child was intubated in view of low GCS and phenytoin loading dose (20mg/kg) followed by maintenance (5mg/kg/day) was administered along with mannitol and supportive therapy for intracranial hypertension. On investigation, her CBC, blood glucose, electrolytes, liver, renal function tests and blood ammonia levels were normal. Tuberculosis screening (Mantoux and CXR) was negative. A possibility of non convulsive status epilepticus was also considered. However, EEG showed low voltage recording suggestive of encephalopathy. CECT head done on day of admission showed hypodensity in left parietal region with no visible underlying lesion. MRI brain revealed a large hypointense lesion on T1W images in left occipito-parietal region which was hyperintense on T2W and FLAIR images. Small nodular lesions were seen in bilateral parietal regions as well which were hyperintense on T2W and FLAIR images suggestive of neurocysticercosis (NCC) with massive perilesional edema (Fig 1). Cerebrospinal fluid showed 8cells/mm^3 (100% lymphocytes) with protein, 45 mg/dl and sugar 56 mg/dl. CSF culture was sterile and CSF Adenosine Deaminase (ADA) levels were normal. Serum anticysticercus IgG antibody was positive. A final diagnosis of cysticercotic encephalitis was made.

Child was started on intravenous dexamethasone. Features of intracranial hypertension became passive 48 hours after admission. Her sensorium gradually improved and was extubated after 60 hours of admission. She was noticed to have right hemiparesis with decreased visual acuity (projection of rays, PR+ and perception of light, PL+ with no finger counting). Her pupillary reflex was normal. Dexamethasone was stopped and oral prednisolone (2mg/kg/day) was continued for 2 weeks. Albendazole therapy (15mg/kg/day) was started on 5^{th} day of steroid therapy and continued for 4 weeks. She had no seizures during her hospital stay.

At 3 months, minimal residual right hemiparesis was evident but cortical blindness persisted. Repeat neuroimaging revealed decrease in size of lesions with complete resolution of perilesional edema.

III. Discussion

Despite common occurrence of parenchymal neurocysticercosis, encephalitic presentation is rare. Typical manifestations include features of raised intracranial pressure along with compromised visual function. This encephalitic presentation of cysticercosis is more commonly seen in females, especially young females.[1]

To our knowledge, this is first case report of encephalitic presentation of cysticercosis in presence of few parenchymal lesions. Only a handful of clinical reports have been published of this relatively rare subacute cysticercotic infestation of the brain.[1-3] All these were seen in cases with multiple cysticercosis lesions unlike the present case with only three intraparenchymal cysts.[1-4] This case re-emphasis that neurocysticercosis should be included in differential diagnosis of acute encephalitic cases especially in endemic countries like India. In addition, encephalitic manifestation of neurocysticercosis doesn't seem to be related to presence of multiple lesions but, perhaps, significant perilesional edema. Neurocysticercosis resulting in cortical blindness has been rarely reported[2,5] though NCC related stroke

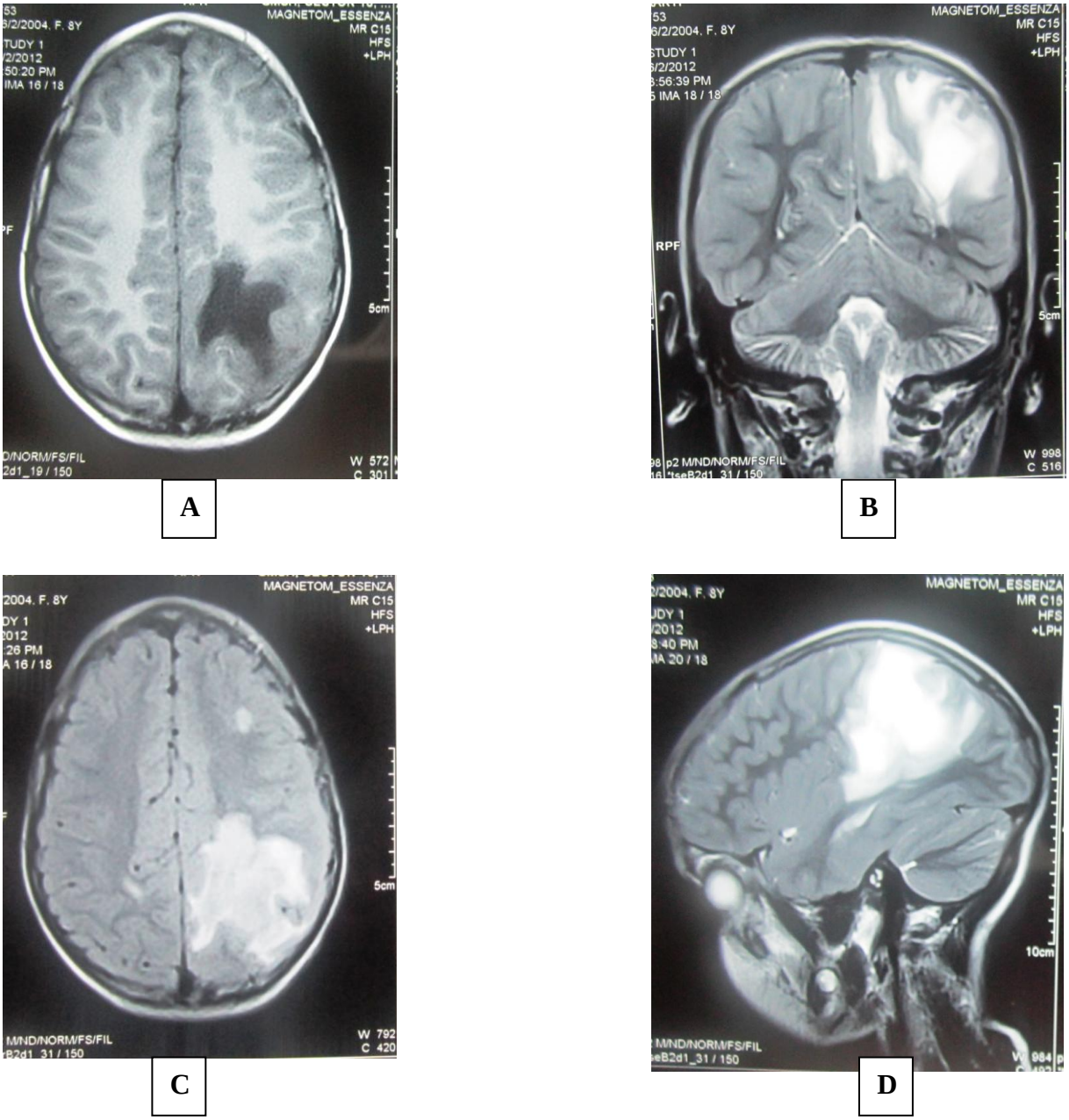

Fig 1 Legend: MRI Brain with axial T1W (A), axial FLAIR (B), coronal T2W (C) and sagittal T2W (D) cuts showing a large hypointense lesion on T1W images in left occipito-parietal region which is hyperintense on T2W and FLAIR images. Small nodular lesions are seen in bilateral parietal regions as well which are hyperintense on FLAIR images (B).

is a well established entity.[6] Cysticidal therapy has been often considered as contraindicated in presence of raised intracranial pressure.[7.] However, appropriate management of raised intracranial hypertension and judicious use of corticosteroids followed subsequently by cysticidal therapy proved effective as well as safe in this patient.

To summarize, cysticercotic encephalitis should be considered as differential for cases presenting as encephalitis in endemic countries like India. Prompt diagnosis and early as well as appropriate therapy can result in better outcome in this rare but commonly fatal neurological disorder.

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