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Case Report

Super Refractory Status Epilepticus as the First Presentation of Cysticercal Encephalitis

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Abstract

Neurocysticercosis (NCC) is the most common parasitic infection of nervous system. We report a case of 42 year old female patient with headache, multiple episodes of seizures and altered sensorium. Magnetic Resonance Imaging (MRI) of brain showed multiple cysticerci in different stages of development compatible with the diagnosis of Neurocysticercosis. Despite administration of multiple antiepileptic drugs and intravenous anaesthetic agent, patient continued to seize and later succumbed to super refractory status epilepticus. Super refractory status epilepticus (SRSE) is characterized by continuous or recurrent seizures without regaining consciousness, lasting for more than 24 hours despite administration of an intravenous (IV) anaesthetic.

Keywords: Neurocysticercosis (NCC); Magnetic Resonance Imaging (MRI); Intravenous (IV)

Introduction

Neurocysticercosis (NCC) is the most common parasitic infection of nervous system [1]. The life cycle of *Taenia solium*, the causative agent, involves pigs and humans as intermediate and definitive hosts respectively. Seizures are the most frequent clinical presentation of NCC; other manifestations include headache, chronic meningitis, focal motor deficits, and hydrocephalus [2].

Case Report

We report a case of 42 year old female patient with diffuse headache for 2 weeks, multiple episodes of generalized tonic clonic seizures and altered sensorium on the day of presentation to casualty without preceding history of fever, neck pain, visual loss or head trauma. Past medical history was not significant. On physical examination, her vitals were normal, pupils were normal size, sluggishly reacting to light; oculocephalic reflex was present, with bilateral fundi showing papilledema on ophthalmoscopy. Deep painful stimuli elicited withdrawal motor response; deep tendon reflexes were brisk with bilateral extensor plantar response. Routine blood investigations including blood counts, hepatic, renal, glycaemic profile and serum electrolytes were within normal limits. Magnetic Resonance Imaging (MRI) of brain showed multiple cysticerci in different stages of development in bilateral cerebral hemispheres in T2/FLAIR (Fluid Attenuated Inversion Recovery) sequence with perilesional edema compatible with the diagnosis of Neurocysticercosis on clinco-epidemio-radiological correlation (Figure 1). Despite the intravenous loading dose of phenytoin (20 mg/kg) followed by Levetiracetam (20 mg/kg), patient continued to seize and aspirated the gastric secretions. Patient was shifted to Intensive Care Unit (ICU) and mechanically ventilated; midazolam intravenous loading dose (0.2 mg/kg) followed by maintenance infusion was started at a dose of 0.2 mg/kg/hr with titration accord-

ing to continuous blood pressure monitoring. Patient was also given intravenous steroids and antibiotics; anticysticidal therapy was not instituted in view of multiple cysticerci with cerebral edema. Continuous Electroencephalography (EEG) monitoring suggested intermittent epileptiform discharges in the form spikes and sharp waves with generalized slowing of the background activity. Patient later succumbed following Ventilator Associated Pneumonia (VAP) a few days after hospitalization.

Figure 1: MRI brain T2/FLAIR sequence showing multiple cysticerci in different stages of development with perilesional edema.

Discussion

Cysticercal encephalitis is an unusual presentation of NCC, occurring as a result of brain parenchymal inflammation due to toxic reaction to cysticercal antigens [3]. MRI brain is the imaging modality of choice to look for degenerating and viable cysticerci, while CT scan is preferred for calcified lesions [2]. In the setting of increased intracranial tension, steroids are the mainstay of treatment as anticysticidal therapy may worsen the edema and hence not indicated.

Super refractory status epilepticus (SRSE) is characterized by continuous or recurrent seizures without regaining consciousness, lasting for more than 24 hours despite administration of an intravenous (IV) anaesthetic or recurrence of seizures on weaning of IV anaesthetic [4]. It is seen following CNS infection, stroke or head trauma. Persistence of seizures may cause irreversible neuronal injury and death leading to poor prognosis in patients with SRSE.

Conclusion

We conclude that cysticercal encephalitis is a possible cause of SRSE.

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