CASE REPORT

NEUROCYSTICERCOSIS WITH FIRST PRESENTATION AS GENERALISED TONIC CLONIC SEIZURES

Subrata Chakrabarti[1], Koushik Pan[1]

Authors' Affiliation: [1]Post Graduate Trainee, Department of General Medicine, SSKM, IPGMER, Kolkata, India
Correspondence: Dr. Subrata Chakrabarti, Email-subratachakrabarti2011@gmail.com

ABSTRACT

Neurocysticercosis (NCC) is an established form of cysticercosis which can have diverse manifestations. Seizures can be a dramatic presentation of NCC. We report the case of a 48 year old male with a first presentation of Generalised tonic clonic seizures. A Computed Tomography (CT) scan of his head showed multiple areas of cortical and subcortical hyperdense lesions. A lumbar puncture and CSF examination was unremarkable. Serum immunology was positive for cysticercosis antigen. The diagnosis of neurocysticercosis was made and he was treated by dexamethasone and albendazole. This case report highlights the importance of careful interpretation of head CTs in the context of first presentation of seizures in appropriate clinical scenario.

Keywords: Neurocysticercosis, Generalised tonic clonic seizures, Computed Tomography

INTRODUCTION

Neurocysticercosisis can have different manifestations in the form of headaches and seizures. Generalised tonic clonic seizures are not so common but dangerous complications of NCC. Diagnosis can be done by CT and can be corroborated with serology results. Urgent control of seizures and proper administration of anti helminthic (Albendazole) for prescribed duration in appropriate dosages under the cover of corticosteroids are the keys to successful management [1-2].

CASE REPORT

A 48 year-old male from rural West Bengal presented to the emergency department following tonic-clonic seizures for last half an hour prior to admission. Each seizure lasted approximately 4 minutes, being separated by several minutes of incomplete recovery. The patient had history of headache for last 1 month with occasional fever for last three months. He was not on any chronic medication. He had no significant past medical history and no history of head trauma.

On examination, he had a GCS of 8/15, a temperature of 38.5°C with dilated both pupils; fundoscopy revealed bilateral papilledema. He was immediately intubated and ventilated. Seizures were controlled with lorazepam and phenytoin following the standard lines of management of GTCS. Urgent Computed Tomography (CT) brain was done. Immediately following the head CT scan, a lumbar puncture was performed. CSF study was within normal limits.

The head CT scan showed multiplehyperdense lesions in both cortical and subcortical distribution throughout the parenchyma. Provisional diagnosis was NCC or multiple calcified tuberculomas. Subsequently, serum cysticercosis immunoblot came out to be positive. Sputum Acid Fast Bacilli were not found and Mantoux reading was negative. He was treated with oral albendazole and dexamethasone; his seizures settled with oral Phenytoin. He was discharged from hospital in stable condition 11 days later.

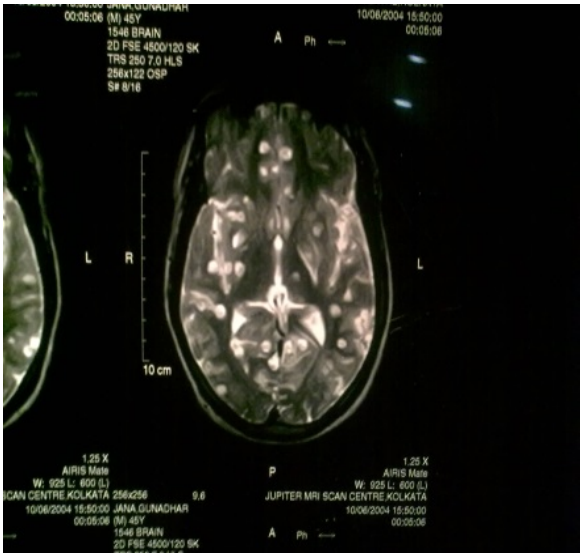

Figure 1 showing multiple calcified neurocysticercosis lesions in both cortical and subcortical distribution in non contrast brain CT

DISCUSSION

Cysticercosis is the commonest parasitic infestation of the central nervous system worldwide. It is caused by

the ingestion of the eggs or larvae of the tapeworm *Taeniasolium*, found in faecally contaminated water and undercooked pork, affecting the gut initially and spreading haematogenously to the central nervous system [1]. Patients often experience a long asymptomatic period, and can present with a variety of neurological manifestations, including focal neurological deficits, migraines, visual hallucinations and seizures [2]. The diagnosis of cysticercosis is often only made coincidentally on post-mortem examination. Extra-neurological manifestations include ocular deposition and skeletal muscle nodules. As such, careful fundoscopy and plain film radiology are mandatory for all in whom the diagnosis is suspected. A single short course of the vermicidal albendazole is usually sufficient to clear an infestation but steroid cover is necessary to control flare. The patient will need repeat imaging after several months to ensure complete eradication. But even after achieving this, long-term neurological sequelae are not uncommon[2].

The seizures are most likely due to cerebral oedema rather than the parasite itself, as they respond to dexamethasone. Cysticercosis antibodies and antigens can be detected in the CSF when it is the cause of meningitis. The vascular complications of neurocysticercosis are an important cause of haemorrhagic and ischaemic stroke. The 'classic' CT appearance of neurocysticercosis is a single enhancing ring lesion, with or without scolex but multiple lesions are often seen [3].A less well-defined marginally enhancing subcortical lesion could be mistaken for an area of ischaemia[4] .

CONCLUSION

This case highlights that the diagnosis of neurocysticercosisshould be considered in patients presenting with seizures in whom CT brain is suggestive and ancillary tests support the entity.

REFERRENCE

1. Carpio A. Neurocysticercosis: an update.Lancet Infectious Diseases 2002; 2:751-62.
2. Kraft R. Cysticercosis; an emerging parasitic disease.American Family Physician 2007; 76:91-6.
3. GargRK .Diagnostic criteria for neurocysticercosis: some modifications are needed for Indian patients.Neurology India 2004; 52:171-77
4. Pal DK, Carpio A, Sander JW. Neurocysticercosis and epilepsy in developing countries. J NeurolNeurosurg Psychiatry 2000; 68:137-43