

Neurocysticercosis : A Case Report

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<http://www.banglajol.info/index.php/CMOSHMCJ>

Abstract

Cysticercosis is a common tropical disease though rare in Bangladesh. One of the common manifestations of cysticercosis is Neurocysticercosis (NCC). We report an immunocompetent patient with neurocysticercosis. He was otherwise asymptomatic in spite of the extensive involvement of central nervous system. A planned approach to therapy is necessary to prevent further deterioration.

Key words : Cysticercosis; Central Nervous System (CNS); *Cysticercus cellulosae*; *Taenia solium*.

INTRODUCTION

Neurocysticercosis (NCC) is one of the common parasitic CNS infection. Undercooked pork, eggs of the tapeworm *Taenia solium*, entering the body through feco-oral route is the common source of its infection¹. Affected person may remain asymptomatic for long time and can present with a variety of neurological manifestations, including focal neurological deficits and generalized seizures. While NCC is the most frequent cause of adult-onset seizures in India, it is rare in Bangladesh due to difference in religious and social practice².

CASE PRESENTATION

A 55 year old male from a urban slum area presented with vertigo, occasional vomiting mainly in morning and two sudden attack of seizures 11 days apart. His seizures were generalized and tonic-clonic, lasted for about 2 minutes each time and associated with tongue bite and micturation. Historical information includes no history of trauma, and no dental work or foreign travel. He was on a restricted diet though on asking he told that sometime he used to take pork meat if available. There was no history of chronic cough, chronic diarrhoea, weight loss, decreased appetite or any past history suggestive of diabetes, hypertension and tuberculosis.

On examination, the patient was well alert, conscious and cooperative. His cardiovascular, respiratory, musculoskeletal and gastrointestinal systems were within normal limit. Neurological examination revealed exaggerated all deep reflexes of upper and lower limbs with bilateral planter exterior response. His ophthalmic examination revealed mild bilateral papilloedema.

Investigations revealed a normal hematological parameters. The erythrocyte sedimentation rate was 45 mm/h. Routine biochemical investigations revealed normal glucose levels and renal and liver function tests. . Chest X-ray showed a incidental solitary pulmonary nodule less than 1.5 cm in diameter in the right lung. Computerized Tomography (CT) of the brain showed multiple hyperdense nodular lesion without contrast enhancement throughout the cerebral cortex(Figure 1) suggestive of NCC. Magnetic Resonance Imaging (MRI) was not performed because of the lack of facility in our hospital. Blood ELISA (qualitative) was positive for IgG antibodies for cysticercosis. Stool examination was normal.

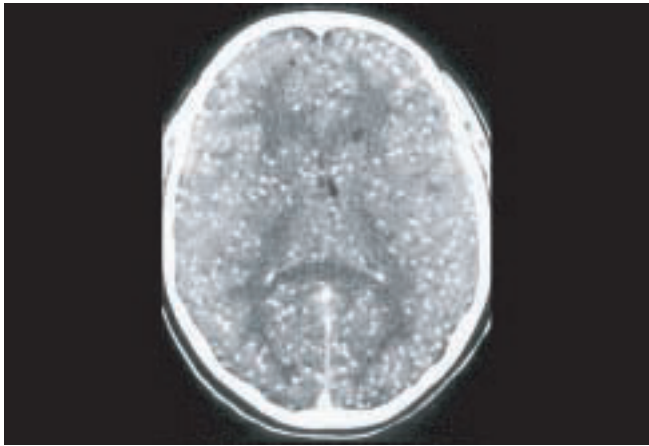


Figure 1: CT scan of brain with multiple nodular lesions (NCC)

DISCUSSION

Cysticercosis is caused by *Cysticercus cellulosae*, the larval form of the tape worm *Taenia solium*. Humans acquire cysticercosis through faeco-oral contamination with *Taenia solium* eggs from tape worm carriers².

NCC is an uncommon manifestation of this common disease. Widespread dissemination of the cysticerci can result in involvement of almost any organ of the body. The main features of NCC include intractable epilepsy, dementia, and focal neurological signs or raised intracranial pressure depending on the amount and localization of the cysts. The differential diagnosis of cystic cerebral lesion on CT or MRI includes abscess, tubercle, metastasis and glioblastoma. Parasitic CNS infections and subacute cerebrovascular events should also be considered³. According to post mortem studies, 80% of neurocysticercal infections remain asymptomatic⁴. Human cysticercosis occurs either via endogenous or exogenous autoinfection in tapeworm carriers or by ingesting *Taenia solium* eggs after fecal oral transmission.

Diagnosis of NCC is often based on the clinical presentation, neuroimaging abnormalities and serology. Serological techniques can vary depending on the activity of the cyst and the number of lesions⁵. Thus, negative results on serological testing do not rule out NCC.

Management of NCC is symptomatic (antiepileptics and steroids), surgical (removal of cysts and ventriculoperitoneal shunt) and cysticidal. The role of treatment with albendazole (15 mg/kg/day for 30 days) or praziquantel (10-15 mg/kg/day for 6-21 days) is controversial. These drugs hasten the death of the cysts, which may occur even in the absence of such treatment⁶. Neurocysticercosis is a serious disease with potentially life-threatening complications. Patients with active cysts remain at risk of serious complications. It is therefore recommended that all patients with multiple cysts should receive treatment with cysticidal drugs. Following treatment, cysticidal syndrome, characterized by features of raised intracranial tension, may occur in 50% of the cases. Efficacy of treatment should be monitored by repeat CT after 3 months. Present case was treated with Albendazole and an antiepileptic for three months and he was found to have no history of further seizure, reduction of morning vomiting with recovery of papilloedema.

CONCLUSION

NCC thus, should always be part of the differential diagnosis of adult onset epilepsy. The disseminated form, although rare, should particularly be kept in mind. The usefulness of a detailed physical examination, serological and radiological examination should be evaluated to get a conclusive diagnosis. Conflict of interest: Authors declared to have no conflict of interest.

DISCLOSURE

All the authors declared no competing interest.

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