CASE REPORT

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Disseminated Cysticercosis: An Uncommon Case with Unusual Presentation

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Abstract

Cysticercosis is caused by the larval form of the tape worm Taenia solium. Disseminated cysticercosis (DCC) is an uncommon manifestation of this common disease with widespread dissemination throughout the human body. Dissemination of the cysticerci can result in involvement of almost any organ in the body and can have variable presentation. Though this form of disease was reported as early as 1912 by British Army medical officers stationed in India, less than 50 cases of DCC have been reported worldwide. Here we report an uncommon case of disseminated cysticercosis with an unusual presentation.

Key words: Cysticercosis, disseminated cysticercosis, Taenia solium, polyneuritis, myositis.

Case report

A 46-year-old female presented with complaints of pain and weakness of all 4 limbs for a few days. Pain was diffuse, more over the muscles and was progressive. She became incapacitated in the next few days and was brought to the hospital. Patient also had a history of headache for last few months which was diffuse, more or less continuous, not associated with visual disturbances or vomiting. There was no history of fever, loss of consciousness, seizures, bladder or bowel involvement, or any sensory loss. On examination, the patient was conscious and oriented, afebrile, and vitals were stable. CNS examination did not reveal meningeal signs or any cranial nerve involvement. DTRs were decreased and planter reflex was flexor; power could not be assessed due to pain and tenderness in the limbs. There was no sensory or autonomic involvement. Investigations revealed the patient to be a diabetic and hypothyroid for which treatment was started. Lab work-up was normal for blood counts, LFT, KFT, electrolytes, ANA and muscle enzymes. NCCT head and CSF examination were normal. Nerve conduction study showed decreased conduction velocity in bilateral median, ulnar, peroneal, and tibial nerves suggestive of demyelinating motor neuropathy. The patient was treated with IVIG on the suspicion of Guillain Barre' Syndrome (GBS). The patient improved and was discharged on analgesics, insulin, and thyroxine.

The patient presented again after a month with complaints of severe headache, blurring of vision, and radicular pain over buttocks and thighs. Her diabetes and hypothyroidism were under control. X-ray of thoracolumbar spine was normal. NCCT head was repeated which showed right occipital calcified granuloma. Ophthalmologic examination revealed papilloedema in both eyes with a cyst in the left medial rectus muscle. MRI scan of brain showed ocular cysticercosis, further confirmed by MRI (Fig. 1A). MRI lumbar spine showed myocysticercosis (Fig. 1B). Hence, an MRI whole body was done, which revealed disseminated cysticercosis involving brain, orbit, spinal cord and muscles (Fig. 2). Repeat nerve conduction study showed low amplitude and absent F-wave in right peroneal nerve and low NCV in right ulnar nerve with normal distal latencies suggesting motor involvement of upper and lower limbs.

The patient was treated with antiepileptic (levetiracetam) and systemic steroid (prednisolone) followed by Albendazole (15 mg/kg/day) and Praziquantel (20 mg/kg/day) for 3 weeks under supervision for any adverse event. Patient improved symptomatically; there was no limb pain while her headache and blurring of vision were reduced. She was discharged on Levetiracetam and tapering dose of Prednisolone, to be followed-up from OPD.

Discussion

Dissemination of human cysticercosis occurs when the embryo of *Taenia solium* enters the hepatoportal system from the intestine, from where it spreads to various tissues and organs of the body[1,2]. Clinical manifestations of cysticercosis depend upon the location of the cyst, cyst burden and host reaction.[4] Simultaneous and extensive involvement of the brain, spinal cord, eyes, muscles, and subcutaneous tissues is extremely rare. Disseminated

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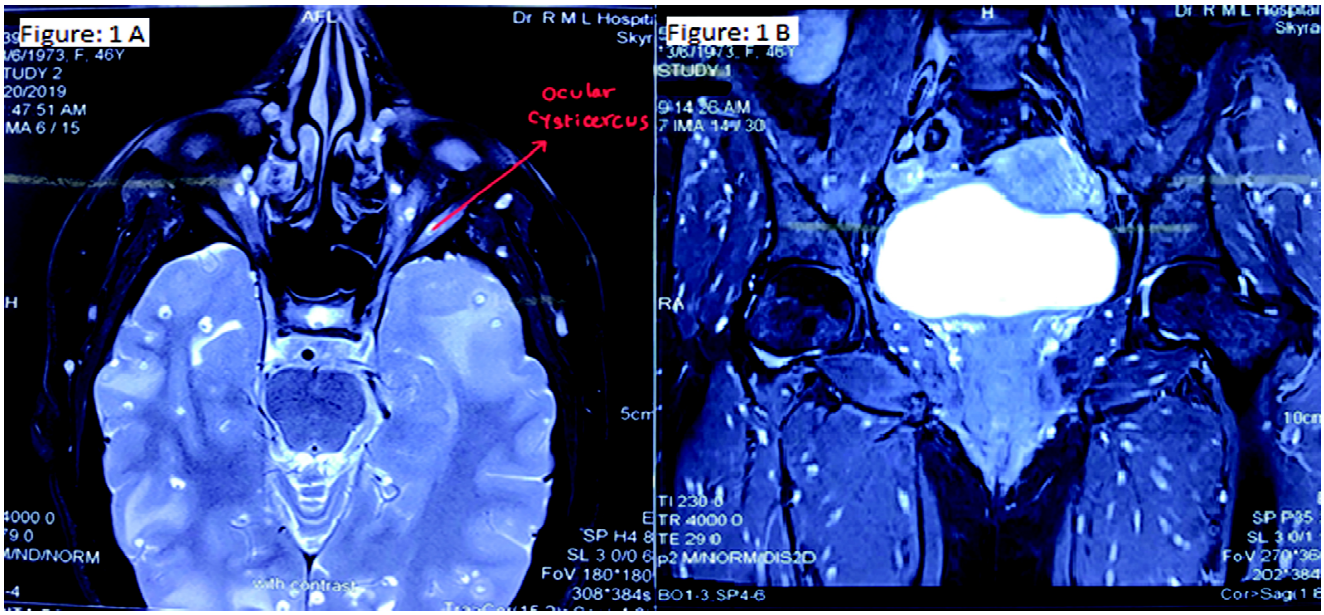

Fig. 1a and 1b:

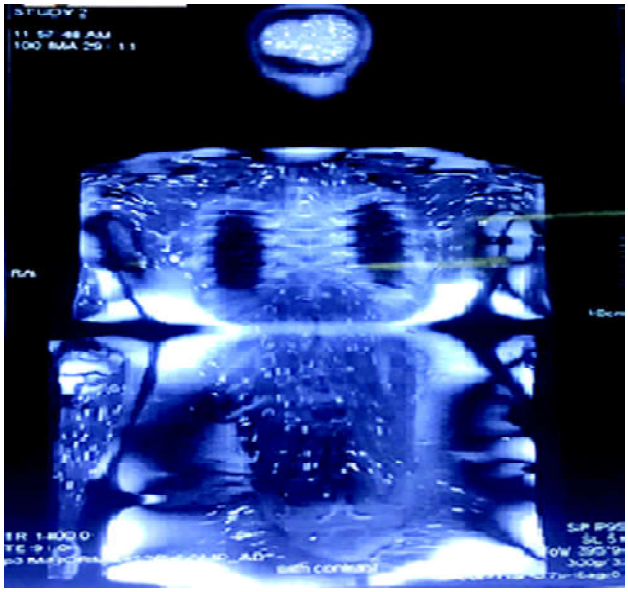

Fig. 2:

cysticercosis (DCC) is an uncommon manifestation of the disease, and less than 50 cases have been reported worldwide[1,3]. Neurocysticercosis (NCC) is considered to be the most common parasitic infestation of the central nervous system (CNS); though most of the NCC cases present with headache and seizures a few may be asymptomatic and detected incidentally on imaging. Unusual presentations of cyscticercosis has been reported in literature and include CNS demyelination[5,] arthritis[6], myositis[7], and lumbosacral radiculopathy[8].

Anatomical localisation of the cysts can be done using computed tomography scans and magnetic resonance imaging (MRI), though MRI is more sensitive than a CT. MRI is helpful in identifying the scolex and live cysts in cisternal spaces and ventricles[9]. MRI can also be used to identify the response to treatment[3].

Treatment with the cysticidal drugs praziquantel and albendazole is indicated as they help by reducing the parasite burden[10]. However, the pharmacological treatment may be associated with severe reactions, which may result from massive release of antigens causing local tissue swelling and generalised seizure activity. Corticosteroids and antiepileptics decrease the incidence of such complications when used before starting the cysticidal drug[10].

In our case, disseminated cysticercosis had a very unusual presentation simulating polymyositis or polyneuritis. There are rare reports of myositis in cysticercosis[7], However, nerve conduction study and normal muscle enzymes ruled this out in our case. Initial nerve conduction study was suggestive of demyelinating neuropathy involving upper and lower limbs and our patient improved with IVIG treatment, at least temporarily, suggesting a diagnosis of GBS, though CSF did not show any albumino-cytological dissociation. Despite extensive review of literature, we could not find any association between GBS and cysticercosis.

The repeat nerve conduction study suggesting motor neuropathy and radicular pain experienced by the patient

can be explained with radiculopathy which might have resulted from extensive spinal involvement due to DCC. Thus, it was an interesting case of DCC, which itself was uncommon and it presented in a very unusual way which finally turned out to be DCC.

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