ABSTRACT

Cysticercosis is a parasitic disease caused by the infestation with the larval stage of parasite - Tenia Solium via feaco-oral route as mode of transmission. Neurocysticercosis is the CNS manifestation, commonly presents with focal seizures. MRI is the diagnostic study, providing most information about cyst location, viability and associated inflammation. Here we present a case of cysticercal Encephalitis with starry sky appearance seen on MRI.

KEYWORDS: Cysticercosis, parasite

CASE REPORT

A 16 years old male patient, presented in HIHT emergency with complaints of fever and headache for 3months and altered behavior for last 15days. On enquiry, immunization was incomplete.

On examination, the general condition was sick with GCS score of E1V1M3. On CNS examination, Tone was markedly increased in all 4 limbs with power of 3/5 in all muscle group. DTR’s were exaggerated with planters bilaterally extensors. Signs of meningeal irritation were present such as neck rigidity, Kernig’s sign and Tachycerebri. McEvan’s sign was positive. Ophthalmology examination was done which showed marked disc oedema. MRI brain was done which showed neurocysticercosis with starry sky appearance with diffuse cerebral oedema with multiple cystecerci seen in scalp, right lateral rectus, muscles of face, tongue and neck. Treatment was started in the form of iv fluids, corticosteroids and iv manitol.

On 2nd day of admission, patient developed cardiorespiratory arrest and was intubated and taken on bag and tube of ventilation. Need for ICU care was explained but attendents refused for any further treatment and took patient LAMA.
DISCUSSION

Tenia solium, also known as poke tapeworm is the causative organism of cysticercosis, acquired by feco-oral route or ingestion of undercooked pork containing larval cysts. Involvement of central nervous system causes Neurocysticercosis (NCC).

Living intact cystic stages usually suppress the host immune and inflammatory response. Most cysts remain asymptomatic for few years. Symptoms usually develop as the cysticerci begin to degenerate, associated with host inflammatory response. Cysticerci can also present as subcutaneous nodules, ocular infection or spinal lesions with myelopathy or radiculopathy.

Parenchymal NCC, typically presents with focal seizures, which may occur as a single episode or recurrent epilepsy. A fulminant encephalitis like presentation may rarely occur, after a massive initial infection of cerebral edema. Intraventricular NCC is associated obstructive hydrocephalus and acute, sub-acute or intermittent signs of increased intracranial pressures. Cysticerci in the tissues may present with focal findings from the mass effect. Ocular NCC caused decreased visual acuity.

The most useful diagnostic study of NCC is MRI Brain. It provides information about cyst location, viability and associated inflammation. The protoscolex is sometimes visible within the cyst which is pathognomonic sign for cysticercosis. MRI also better detects the basilar arachnoiditis, intraventricular cysts and cysts in the spinal cord. CT scan is best for indentifying of calcifications.

A solitary parenchymal cyst, with or without contrast enhancement, and central nervous system calcifications are the most common findings in children.

Plain films may reveal calcifications in muscle or brain consistent with cysticercosis. In children from endemic regions, the presentation with a single enhancing lesion that is round and <2 cm in diameter, absence of symptoms or signs of other diseases (e.g., no fever or lymph nodes), no focal findings, and no evidence of increased intracranial pressure is highly specific for NCC. Tuberculoma’s need to be differentiated from NCC.
Management of children with cysticercal encephalitis is highly supportive. Seizures can usually be controlled using standard antiepileptic drugs. Solitary parenchymal cysts resolve slightly more rapidly with antiparasitic therapy. Antiparasitic drugs also decrease the frequency of recurrent seizures.

Albendazole, is the most common antiparasitic drug used at a dose of 15mg/kg/day. The most common duration is 7 days for parenchymal lesions. Longer durations, higher doses (upto 30mg/kg/day) or combination therapy with Praziquantel(50-100mg/kg/day) required for multiple lesions.

Patients should be medicated with prednisone 1-2 mg/kg per day or oral dexamethasone(0.15 mg/kg/day) beginning before the first dose of antiparasitic drugs and continuing for at least 2 wk. Methotrexate can be used as a steroid-sparing agent in patients requiring prolonged anti-inflammatory therapy.

Most patients with hydrocephalus require neurosurgical interventions. Some cases require emergent placement of a ventriculostomy, but most can be managed by cystectomy alone.

The present case highlights that, despite the progression in the health sector, extensive forms of cysticercosis are still prevalent in endemic regions. In children presenting with features of acute encephalitis syndrome in these regions, a possibility of cysticercal encephalitis should be considered. The importance of careful, complete physical examination also cannot be overemphasized as illustrated in the present case, wherein the subcutaneous cysticercosis provided a clue to the diagnosis.

REFERENCES