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Case Report

Disseminated Neurocysticercosis with Facial, Spinal and Tongue Muscle Involvement: A Rare Presentation

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ABSTRACT

Cysticercosis is caused by Cysticercus cellulose, which is the larva of Taenia solium, the pork tapeworm. The larvae are carried in the blood stream after penetrating the walls of the alimentary tract and they lodge in different tissues like the skin, skeletal muscles, brain, fundus and heart, to cause disseminated cysticercosis. Cases of disseminated cysticercosis, that too involving tongue musculature have rarely been reported in the literature. We are presenting a case report of a 40 year old immunocompetent male presented with disseminated cysticercosis involving brain, extraoccular, facial, spinal and neck muscles; also involving rare sites like paravertebral tissue, tongue, and subcutaneous tissue.

KEYWORDS: Taenia solium, Lingual cysticercosis, Albendazole

CASE REPORT

A 40 year old non diabetic, normotensive male presented to our hospital with history of headache, irrelevant talking and vertigo since 4 days and brief duration of unconsciousness on the day of presentation. Patient had a previous history of seizure episodes and involuntary movement of left upper limb with recurrent falls. There was no history of fever, vomiting, head injury or vaccination. Patient was non alcoholic and non-smoker although gave a history of occasional pork intake. There was no prior history of tuberculosis or any similar complaints. Patient had history of decreased vision since 2 months. Patient also appreciated few small nodular lesions on tongue. There was also a history of small nodular swellings on upper half of body since last 3 months. Lesions were painless, pigmented and nonpruritic.

On examination patient was not oriented to time and person and was afebrile. General physical examination revealed diffusely scattered pigmented marks and subcutaneous nodules over chest and back about 0.5 to 2.5 mm in diameter which were non tender on examination (Figures 1a and 1b). Face had hypopigmented macules on forehead (Figure 2). Vitals were stable and systemic examination did not reveal any conspicuous finding except deranged higher mental functions.

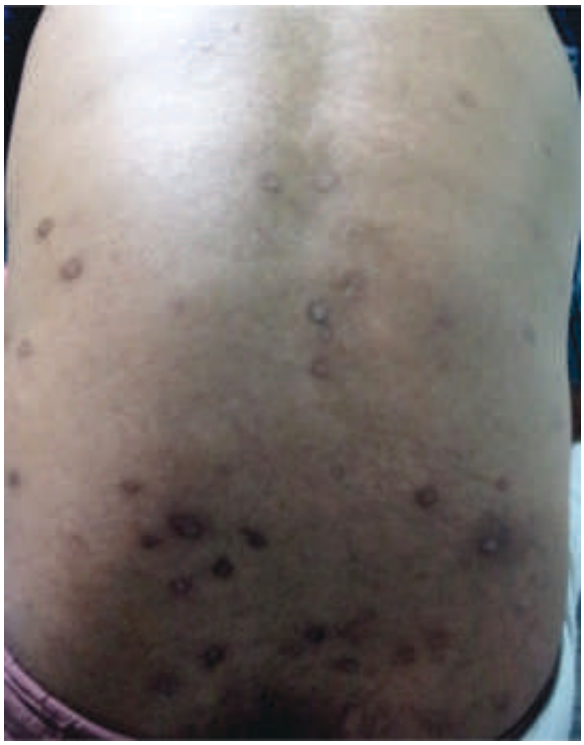

Figure 1 (a): Pigmented Scars on Back

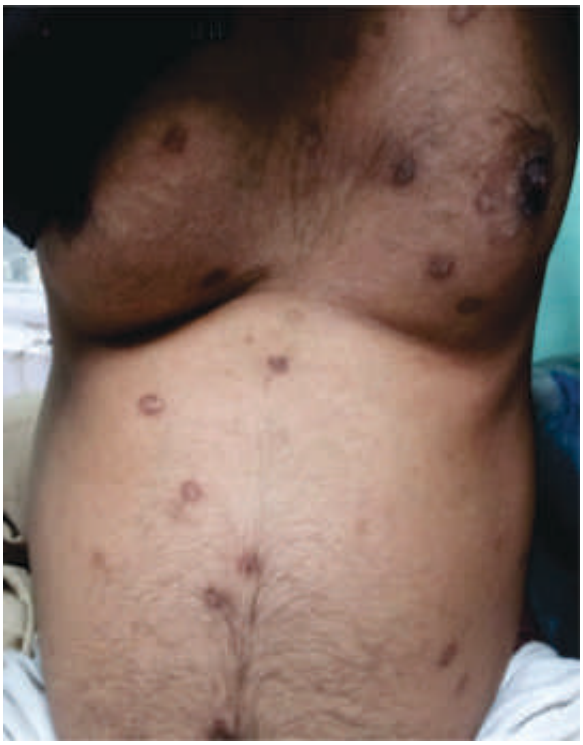

Figure 1 (b): Lesioins on Chest and Abdomen

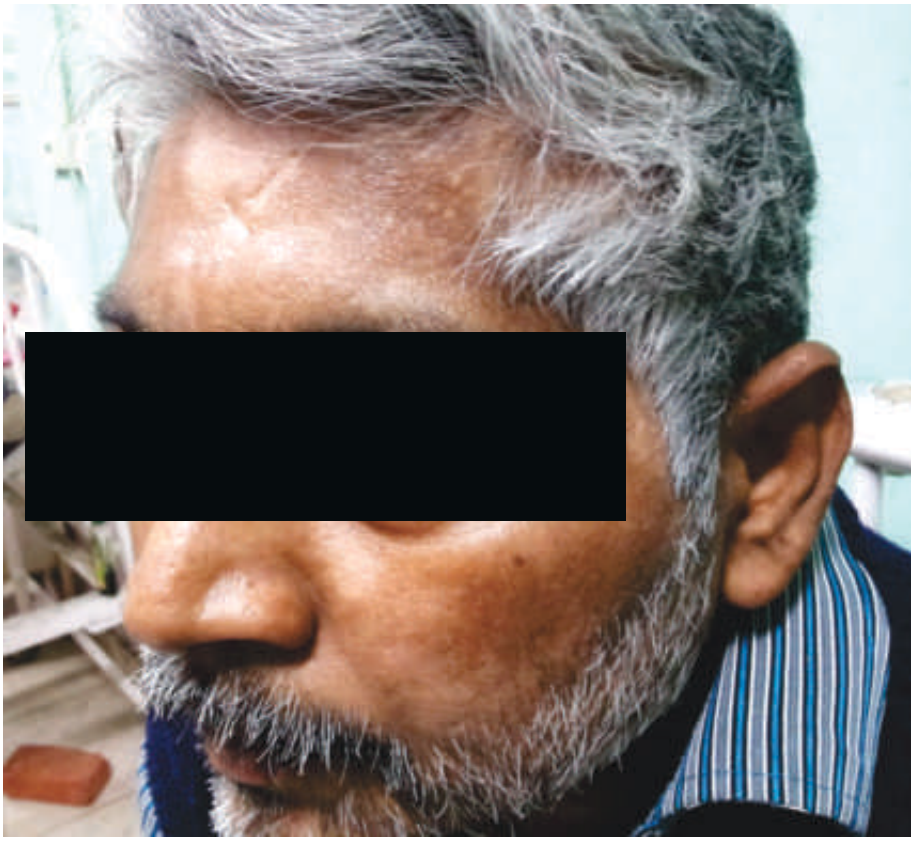

Figure 2: Hypopigmented Macules on Forehead

Routine laboratory parameters were normal except eosinophilia in Hemogram. Ophthalmoscopy did not reveal any intraocular cyst but presence of bilateral papilloedema with arterial attenuation. X ray of soft tissue of neck revealed multiple calcified lesions in the superficial and deep planes of the neck musculature (Figure 3). Ultrasonohraphy of abdomen revealed normal study and USG neck showed multiple cysticerci in right sided intramuscular spaces.

MRI Brain revealed multiple cysts in supra and infratentorial brain parenchyma, subpependymal region of bilateral lateral ventricles and basal ganglia, pons, thalamus, bilateral extraocular muscles, facial muscles, tongue muscles and paravertebral soft tissue at the level of C2 (Figures 4a and 4b)

EEG Brain revealed normal awake record. Sonography of target skin lesion was done which showed multiple subcutaneous and intramuscular cystic lesions. Cystic lesions were also present in neck muscles. Ocular sonography also revealed cystic lesions in bilateral retroorbital tissue and extraoccular muscles. Biopsy of a nodular skin lesion showed changes consistent with cysticercosis. Patient's HIV serology was negative and patient was not on any immunosuppressant drug.

A diagnosis of disseminated cysticercosis was made. Patient was started on antiepileptic drugs and steroids. Albendazole was not given because of the raised intracranial tension and parasite burden. After starting the treatment patient rapidly improved. He became conscious and oriented within 3 days. Patient was discharged after 1 week of hospitalisation with long term decongestive therapy and tapering doses of steroids.

DISCUSSION

Human cysticercosis is an infection by the larval (cysticercus) stage of the tapeworm Taenia solium. Tapeworm infections are common in developing countries where there are poor sanitation facilities and close interaction between humans and animals. Normally, humans are the definitive hosts for T.solium. Its life cycle begins with ingestion of viable larvae in inadequately cooked pork. Humans can also acquire the

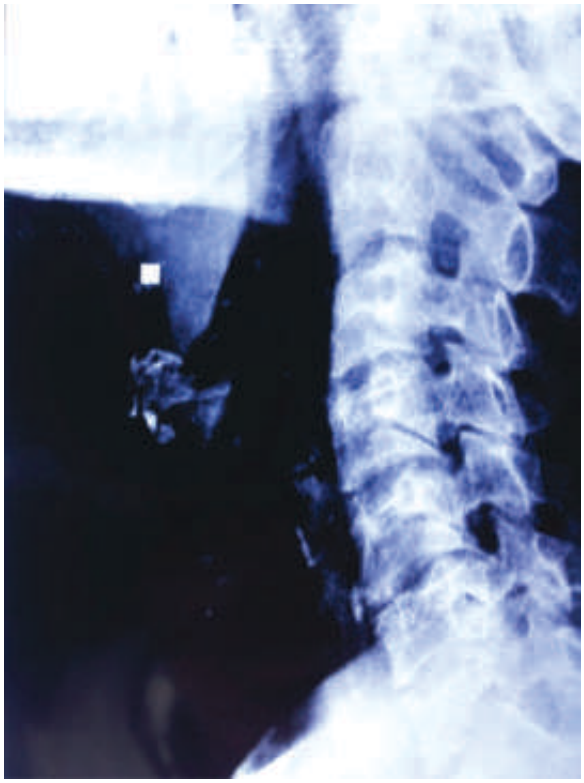

Figure 3: X-Ray Neck showing Multiple Calcified Cysts

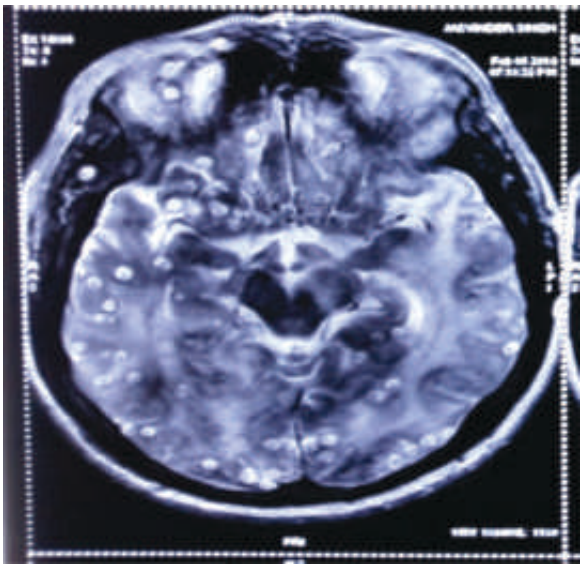

Figure 4 (a): MRI Brain with Parenchymatous Cysts with Scolices

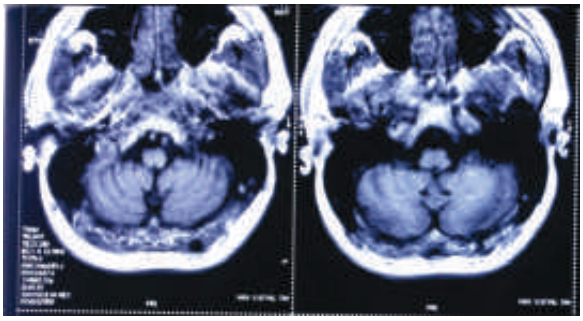

Figure 4 (b): Cesticerci on Tongue Muscles

infection by ingesting water or food contaminated with human faeces or by oral transmission via the hands of infected carriers of adult worms. The cyst wall is destroyed by gastric secretions, releasing scolex which passes into the small intestine, where it becomes fixed to mucosal walls. Embryonated eggs and gravid proglottids are then released in the stool, on to the soil, which are later ingested by the intermediate host, the pig. Ingestion of undercooked pork by humans again initiates the parasitic life cycle[1]. Tapeworm eggs are present in the faeces of a person infected with the adult worms. If humans ingest these eggs, they can become intermediate hosts.

The clinical course of cysticercosis depends on the number of cysts, the type of host tissue infected, and the reaction of tissues to the parasite. The larvae may migrate to any organ and may remain viable for many years[2]. The organism often invades the central nervous system, eye, subcutaneous tissue, skeletal muscle, and occasionally the lungs, liver, and tongue muscles[3].

The involvement of the nervous system by cysticerci is known as neurocysticercosis (NCC). It is a common finding in cases of disseminated cysticercosis. Neurocysticercosis can present with a wide range of manifestations, most frequent being seizures, increased intracranial pressure, obstructive hydrocephalus and at times the NCC may be asymptomatic. To diagnose cases of neurocysticercosis, MRI of the brain, with spectrometric studies are essential[4].

Ocular involvement can be a part of the disseminated cysticercosis syndrome. Fundoscopic examination and ultrasonography of the eyes are useful in diagnosing ocular Cysticercosis[5].

In some cases, solid lumps of between one to two centimetres may develop under the skin. Although subcutaneous cysticercosis is generally asymptomatic; awareness of such lesions may lead to early diagnosis and removal of cysticercosis from vital organs before further damage.

Generalized involvement of the body with cysticerci can affect skeletal muscles as well. The muscular form of cysticercosis, when confined to muscles, is generally asymptomatic. Clinical features can be myalgia or pseudohypertrophy of muscles[6]. Diagnosis of cysticercosis involving the muscles is difficult clinically. Ultrasonography is an important in diagnostic tool.

Cysticercosis is very rare in the oral and maxillofacial region. The most commonly involved intraoral sites are buccal mucosa, tongue and lips[7]. Literature review has mentioned that only 34 cases of lingual cysticercosis are reported till now[8]. It is documented that the lesion on the tongue could interfere with movement, causing discomfort during speaking and eating. Although, oral cysticercosis indicates disseminated infestation, systemic complications are not demonstrated in most of the patients with oral lesions. Diagnosis is confirmed by the presence of larval forms on biopsy[9].

Although neurocysticercosis is common, reports of disseminated cysticercosis are rare. Cases of extensive cysticercosis, which had affected the brain, tongue and orbits and muscles, are rare and carry a sinister prognosis.

The treatment depends on symptoms and accessibility of lesion. Neurocysticercosis and multiple cysts are treated with drugs like Praziquantel and Albendazole. Treatment of choice in solitary accessible lesion is surgical excision[10].

CONFLICT OF INTEREST: None

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REFERENCES

1.Manson-Bahr DH. Manson's Tropical Diseases. London, England: Bailliere Tindall and Cassel; 1966: 734–934.

2.Hunter GW, Freyes WW, Swartzwelder JC. A Manual of Tropical Medicine. Philadelphia, PA: WB Saunders Co; 1966:572.

3.Meena D, Gupta M, Jain VK, Arya RK. Isolated intramuscular cysticercosis: Clinicopathological features, diagnosis and management - A review. J ClinOrthop Trauma. 2016 Oct-Dec; 7(Suppl 2):243-249. doi: 10.1016/j.jcot.2016.06.016. Epub 2016 Jun 30. PMID: 28053392; PMCID: PMC5197059.

4.Wadia N, Desai S, Bhatt M. Disseminated cysticercosis, new observations, including CT scan findings and experience with treatment by Praziquantel. Brain. 1988; 111:597–614.

5.Sekhar GC, Lemke BN. Orbital cysticercosis. Ophthalmology. 1997; 104:1599–604.

6.Asrani A, Morani A. Primary sonographic diagnosis of disseminated muscular cysticercosis. J Ultrasound Med. 2004; 23:1245-8.

7.Jay A, Dhanda J, Chiodini PL, Woodrow CJ, Farthing PM, Evans J, et al. Oral cysticercosis. Brit J Oral Max Surg2007; 45: 331-334

8.Pandey SC, Pandey SD. Lingual cysticercosis: Case report. Indian J PlastSurg 2005; 38:160-1.

9.Lustmann J, Copelyn M. Oral cysticercosis: Review of literature and report of two cases. Int J Oral Surg 1981; 10:371-5.

10.Saran RK, Rattan V, Rajwanshi A, Nijkawan R, Gupta SK. Cysticercosis of the oral cavity: Report of five cases and a review of literature. Int J Pediatr Dent 1998; 8:273-8.