

ISOLATED CYSTECERCOSIS OF ANTERIOR FACIAL MUSCULATURE: FIRST CASE

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ABSTRACT:

Human cystecercosis is caused by the larvae of tapeworm *Taenia Solium*. CNS and limbic musculatures are the common hideouts for this pathogen in human. There have less than 10 cases reported of cystecercosis in muscles of mastication (masticator and temporalis muscle). We present a case of 20 year old male who presented with cystecercosis of anterior facial musculature. It was diagnosed on USG and confirmed with FNAC. The lesion completely healed with oral albendazole 400 mg BD for two weeks and there was no necessity for surgery. Till the best of our knowledge, this is the first case of isolated human cystecercosis in anterior facial musculature.

Key words: Cystecercosis, *Taenia Solium*, facial musculature, albendazole

INTRODUCTION:

Human cystecercosis is caused by larvae of *Taenia Solium*. It is an endemic in region with overcrowding and poor socio-economic criteria. Central nervous system is the pre-dominant site. We present here a case of 20 year old male with cystecercosis of facial musculature .^[1]

CASE DETAIL:

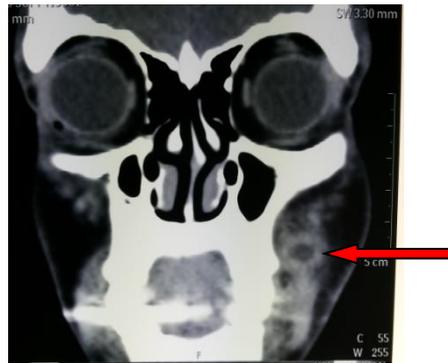
A 20 year old male presented with complaint of palpable subcutaneous swelling which was increasing progressively since last 3 months. The swelling was not painful and could not be appreciated on inspection. There was no history of trauma or previous surgery and no evidence of loosening of teeth or nasal complaints. On palpation, a 3x3 cms

globular ,firm, non-fluctuant ,non-tender swelling was present in the subcutaneous tissue on the left side which was 4 cms lateral to left ala of nose.

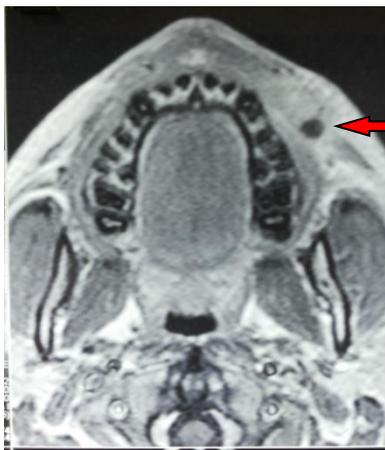
On USG, a cystic swelling was seen with moving echoes inside it and presence of scolex was documented ,suggesting it to be most likely cystecercosis.



On CT, there was a cystic swelling with no bony erosion or defect and was non enhancing



On MRI, a T1 hypointense with T2 hyperintense swelling which did not enhance on gadolinium contrast with intra-cystic bodies suggestive of scolices were seen.



Fine needle aspiration was done which confirmed presence of cysticercosis.

Before beginning with the treatment, B scan sonography of eyeballs and MRI brain was done to rule presence of any other cysticercoid bodies. Patient was started on tablet Albendazole at dose of 400 mg BD for 2 weeks. On the fifth day, patient developed erythema and tenderness around the lesion. The swelling had suddenly increased in size due to release of toxins from the death of scolices. The patient was started on oral prednisolone 30 mg for 7 days and followed up. After a week, the induration and erythema had subsided. Albendazole was continued and tapering of steroid

dosage was started. After 3 weeks of albendazole, the swelling completely subsided and there was no need of surgical intervention.

DISCUSSION:

Human cysticercosis is infestation by larval stage of tapeworm *Taenia solium*. Tapeworm infestation is common in South East Asia, South America and Africa. Humans are definitive host for *Taenia solium* as they harbor adult worms and pig being intermediate host where larval stages develop. Areas with lower socio-economic strata with over-crowding and

compromised sanitation are niche for transmission of infection to human because of increased chances of faecal soiling of food and contamination of food.

Humans harbor adult worms in the gut which averagely measure about 2-3 meters with about 1,000 proglotids with each proglotid having 50,000 eggs.^[1] The adult worms shred the gravid segment which get excreted in the faecal matter. The pigs feed on soil and plantation soiled by human faeces . these gravid segment rupture in the intestine of pigs due to enteral enzymatic action releasing the eggs . The liberated oncospheres from the eggs get attached to wall of intestine and enter the lymphatics and blood and get disseminated in the whole body with special affection to bulky muscles. In these muscles, the oncospheres transforms themselves in to larval stage (cystecercosis cellulose).^[2]

Humans can become accidentally intermediate hosts by three different ways (a) ingestion of food soiled by faecal matter (b) oral transmission of eggs by hands to oral cavity(c) regurgitation of eggs in the stomach due to reverse peristalsis causing auto-infection. These eggs release oncospheres which penetrate gut wall to reach haemato-lymphatic system from which they get disseminated to whole body. The most common tissue affected are skeletal muscles, subcutaneous tissue, brain and eyes.

The clinical manifestation of the disease depends on the site affected. Central nervous system involvement causes seizures and focal neurological deficits.

Ophthalmic infestation can present as asymptomatic to loss of vision especially after starting the anti-helminthic drugs. Subcutaneous and muscular spread presents generally as solitary swelling.

The diagnosis can be made by high resolution sonography followed of fine needle aspiration. Histopathological report of the excised specimen (if surgical excision is done) is the gold standard for the diagnosis. Computed tomography and MRI do not provide any advantage for subcutaneous cystecercosis. USG shows fluid filled cystic structure containing larvae which are diagnostic of cystecercosis. Long standing lesion will be detected calcification due to calcified dead larvae. FNAC is useful as it will show scolex or a part of the larvae which is very characteristic for this disease. MRI may also T2 hyperintense lesion with minute hypointense shadows suggestive of cyst filled with larvae. CT scan are not useful as there is no case reported yet which has caused bony infiltration or bony deformity.

In cases of subcutaneous and muscular cystecercosis , complete neuro-ophthalmic examination with radiological imaging should be done. CT or MRI brain will be sufficient to rule out neuro-cystecercosis. Fundoscopy with B scan should be done to rule presence of cystecercosis in retina. This is important as on starting antihelminthic drugs, the death of the larvae releases toxin which cause severe inflammation in the periphery and may cause neural compromise of retina and optic nerve leading to blindness.

The medical line of management is preferred, failing which surgical line of management is enrouted to. Praziquantel (50mg/kg/day in divided doses for 14 days) and Albendazole (400mg for adults and 200 mg for children, BD for 14 days) are the two most preferred drugs.^[3]

To the best of our search, this case is the first of it's nature as cysticercosis has never been reported in the anterior facial subcutaneous-muscular tissue. There have less than 10 reported cases of this parasite residing in the muscle of mastication(temporalis and masseter).^[4]

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CONCLUSION:

Disseminated cystecercosis is uncommon, especially, facial musculature is of very rare instance.USG and FNAC are investigation of choice for the diagnosis and MRI can be adjunct to these. Medical line of management should always the first step in management of cystecercosis with praziquantel and albendazole being drug of choice. Surgical management should be kept reserved for selective cases where medical line of management has failed.

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