

Case Report

Cysticercosis In Anterior Abdominal Wall : A rare case report

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Cysticercosis, caused by *Taenia solium* larva is a major public health problem especially in developing world. In this unusual form of infection man becomes the intermediate host. The encysted larval stage commonly infests brain, but muscles and subcutaneous tissues are also often affected. High resolution ultrasonography is diagnostic for subcutaneous or intramuscular cysticercosis. Here we present a rare case of anterior abdominal wall cysticercosis.

Key words: cysticercosis, *Taenia solium*, high resolution ultrasonography.

Case Report: A 6 years old boy presented with a painless swelling in the abdomen for last 2 months. Local examination revealed a mildly tender parietal swelling of 4 X 5 cm diameter in the left para umbilical region. There was no other significant systemic sign. Ultrasonography of abdomen revealed a hypoechoic lesion 5 X 3.5 mm in soft tissue. High Resolution Ultrasonography (HRGS) of the swelling showed small thickened wall cystic intra muscular mass 14X12 mm in left sided rectus abdominis muscle at para umbilical region. Echogenic nodule seen in cystic area. No significant color flow in the swelling was seen. There was no perilesional muscle oedema. These findings are definitely indicating intramuscular mass with possibility of cysticercosis. An USG guided FNAC of cystic swelling revealed whitish particulate material. Microscopy showed fragments of cysticercus larva and associated non-specific inflammation. Patient was treated with steroid (prednisolone) and albendazole for 4 weeks. Size of the swelling reduced in the follow up. Repeat HRGS after 4 weeks of completion of therapy showed disappearance of the lesion.

Discussion: Cysticercosis is infection with the larval form (*cysticercus cellulosae*) of the pork tapeworm.¹ Humans normally act as definitive hosts. Ingestion of infected pork, the intermediate host, leads to the development of the adult worm in the small intestine of humans. The eggs of the worm are excreted with the feces, which are ingested by the pig, the intermediate host. Ingested eggs hatch in the small intestine

and result in the cysticercosis, completing the cycle. However, humans can occasionally be intermediate hosts, manifesting cysticercosis. It occurs by ingestion of eggs from contaminated water or food, such as vegetables,² or by internal regurgitation of eggs into the stomach due to reverse peristalsis, when the intestine harbors a gravid worm.³ The eggs hatch in the small intestine, releasing oncospheres that penetrate the bowel mucosa and enter the bloodstream to reach various tissues, where they develop to form a *cysticercus cellulosae*, which is the encysted larval form of *T. Solium*.

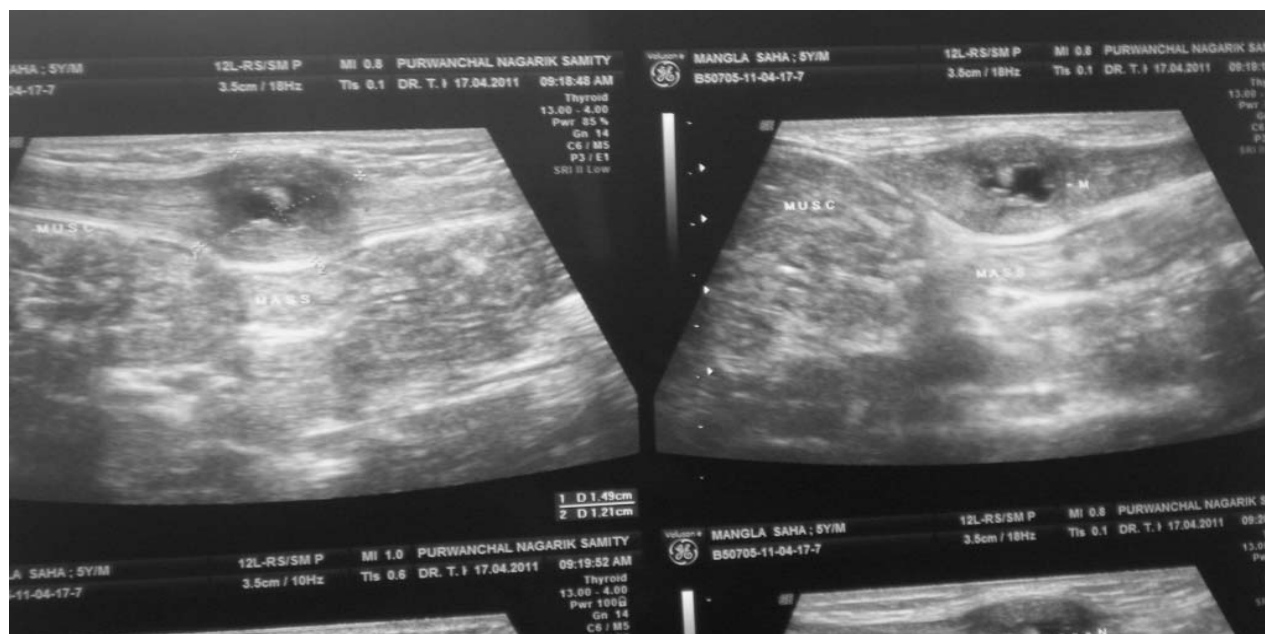
Diagnosis of intramuscular cysticercosis is quite difficult as lipoma, fibroma, abscess can present with similar findings. High Resolution Ultrasonography (HRGS) is very useful for definitive diagnosis of cysticercosis. Here salient diagnostic features are presence of a oval or rounded cystic lesion with well defined margin & an echogenic eccentric focus. Cysticercosis in muscle can occur in 3 forms depending upon the site of involvement: the myalgic type, the mass like pseudo tumor and rarely pseudohypertrophic type^{4,5} During the death of the larva, there is leakage of fluid from the cyst. The resulting acute inflammation may result in local pain and myalgia. Alternatively, degeneration of the cyst may result in intermittent leakage of fluid⁶ eliciting a chronic inflammatory response, with collection of fluid around the cyst, resulting in the mass like, pseudo tumor, or abscess like type as in our case.

There are only few reported cases of the muscular

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cysticercosis diagnosed on ultrasound^{7,8,9}. Usual appearance of cyst in HRGS as hypoechoic lesion with a hyper echoic spot within the cyst corresponding to the scolex and inflammatory reaction surrounding the cyst.(Figure 1) Sonography shows a well-defined, elliptical cystic lesion, which is a fluid-filled, bladder like structure that contains the larva . Surgical removal is indicated for localized lesions that cause obvious symptoms. Medical treatment is with albendazole. We have successfully managed the patient conservatively with albendazole and steroids only. Albendazole as a vermicial

causes degenerative alterations in the tegument and intestinal cells of the worm and death of the parasite. Steroids are used as anti-inflammatory agent as most of the surrounding phlegmon is inflammatory reaction to the cyst.

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References:

1. Evans CAW, Garcia HH, Gilman RH. Cysticercosis. In:Strickland GT (ed). Hunter's Tropical Medicine. 8th ed. Philadelphia, PA: WB Saunders Co; 2000:862.
2. Horton J. Biology of tapeworm disease [letter].Lancet 1996; 348:481. [http://dx.doi.org/10.1016/S0140-6736\(05\)64584-9](http://dx.doi.org/10.1016/S0140-6736(05)64584-9)
3. Del Brutto OA, Sotelo J. Neurocysticercosis: anupdate. Rev Infect Dis 1988; 10:1075-1087. <http://dx.doi.org/10.1093/clinids/10.6.1075>
4. Vijayaraghvan SB. Sonographic appearances in cysticercosis. *J Ultrasound Med* 2004; **23**:423. PMID:15055791
5. Mittal A, Das D, Iyer N, Nagaraj J and Gupta M. Masseter cysticercosis - a rare case diagnosed on ultrasound. *Dent maxillofacial Radiology* 2008; **37**:113-116.
6. Scully RE, Mark EJ, McNeely WF. Case records of the Massachusetts General Hospital weekly clinicopathological exercises, case 26-1994. *N Engl J Med* 1994; **330**:1887. PMID:8196733
7. Ergen FB, Turkbey B, Kerimoglu U, Karaman K, Yorganc K, Saglam A. Solitary cysticercosis in the intermuscular area of the thigh: a rare and unusual pseudo tumor with characteristic imaging findings. *J Comput Assist Tomogr* 2005; **29**(2):260-263. <http://dx.doi.org/10.1097/01.rct.0000157746.87488.6a> PMID:15772549
8. Sidhu R, Nada R, Palta A, Mohan H, Suri S. Maxillofacial cysticercosis: uncommon appearance of a common disease. *J Ultrasound Med* 2002; **21**: 199-202. PMID:11833875
9. Mani NBS, Kalra N, Jain M, Sidhu R. Sonographic diagnosis of a solitary intramuscular cysticercal cyst. *J Clin Ultrasound* 2001; **29**:472-475. <http://dx.doi.org/10.1002/jcu.10004> PMID:11745855