International Journal of Otorhinolaryngology and Head and Neck Surgery
Singh R et al. Int J Otorhinolaryngol Head Neck Surg. 2016 Oct;2(4):277-279
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

Case Report

DOI: http://dx.doi.org/10.18203/issn.2454-5929.ijohns20163481

Solitary cysticercosis of sternocleidomastoid muscle: a rare entity

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Received: 07 August 2016
Accepted: 07 September 2016

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ABSTRACT

An infection with the larval stage of tapeworm (*Taenia solium*) is known as cysticercosis. It is seen as cysts in various human tissues, most commonly in the the brain and orbit. Head and neck (except brain and orbit) is a rare location for cysticercosis. We present a case of lateral neck swelling which turned out to be solitary cysticercosis of sternocleidomastoid (SCM). The case is reported because it is rare and to reinforce the fact that possibility of parasitic infection should be considered while dealing with a case of neck swelling. It can be managed medically and high resolution sonography can be a reliable tool for diagnosis and follow-up.

Keywords: Cysticercosis cellulosae, Tapeworm, Sternocleidomastoid

INTRODUCTION

Cysticercosis is an infection with the larval (cysticerci) stage of *Taenia solium*.[1] It is seen as cysts in various human tissues, most commonly in the brain and orbit. Head and neck (except brain and orbit) is a rare location for cysticercosis. We encountered one such rare case of solitary cysticercosis of sternocleidomastoid muscle in seventeen years old female presenting as lateral neck swelling.

METHODS

A 17 years old female presented with a painful single lateral neck swelling on left side since 14 days. There was no history of fever, cough, throat pain, trauma, insect bite or any other neck swellings. There was no family history of similar disease or tuberculosis.

On examination, it was a solitary swelling of size 2 cm × 2.5 cm with ill-defined margins on upper one-third of left sternocleidomastoid (SCM) muscle which was tender, mobile horizontally but not vertically as shown in Figure 1. On contraction of the SCM muscle, the size of swelling remained same but mobility was restricted. The skin was free from underlying swelling with no secondary changes. Ear, nose and throat and general physical examination was unremarkable.

Considering these findings, it was clinically suspected to be impending suppurative cervical lymphadenitis. Broad spectrum antibiotics and anti-inflammatory was started, and in the meantime she was subjected to investigations. Ultrasonography (USG) neck showed well defined anechoic cystic lesion measuring 5 to 10 mm with internal debris in left SCM muscle suggestive of cysticercosis cellulosae as in Figure 2. On blood investigations, eosinophil count was high i.e. 7%. Absolute eosinophil count was raised (520 cells/cmm). Stool study was negative for ova/cyst. Chest X-ray and Mantoux test were negative. CT scan abdomen and brain was normal. On ophthalmic evaluation, there was no evidence of cysticercosis in anterior chamber, vitreous and retina.

Hence with diagnosis of isolated cysticercosis of left SCM muscle, the patient was advised tablet albendazole 400 mg twice daily for 4 weeks. After 4 weeks, the neck swelling had disappeared as seen in Figure 3 and a repeat USG neck showed no evidence of cysticercosis.

Figure 1: Neck swelling of left SCM muscle.

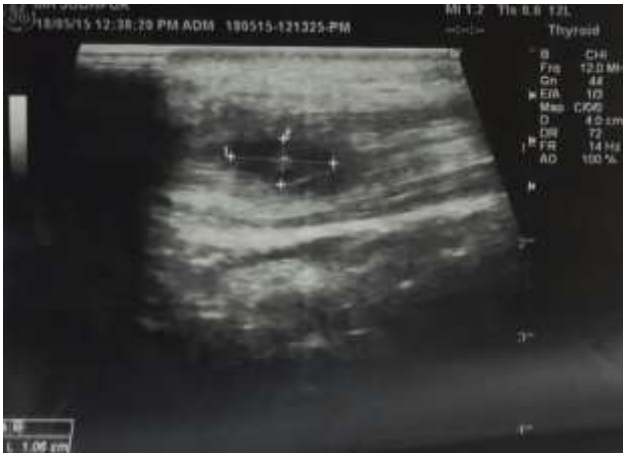

Figure 2: USG picture of cysticerosis in left SCM muscle.

Figure 3: Resolved neck swelling of left SCM.

DISCUSSION

Cysticercosis in humans is caused by encysted larvae of Tapeworm (*Taenia solium*). A high incidence of cysticercosis in countries like Brazil, Chile, Ecuador, South Africa and India is reported.[2]

It is transmitted to humans by ingestion of eggs through contaminated food and water or dirty hands or eating undercooked meat (pork). Review of literature suggests that it is common in developing countries (where standard of health and hygiene is poor).

The clinical symptoms of cysticercosis depend on the number and location of cysticerci, as well as extent of inflammation. The organism mostly invades the Central nervous system, eye, subcutaneous tissue, skeletal muscles and heart. Occasionally, the lungs, liver and kidney may be affected. In the muscular form, three distinct types of clinical manifestations have been described: the myalgic type; the mass-like pseudotumour or abscess-like type; and rare pseudohypertrophic type.[1,3] Parasitic etiology should be kept in mind while dealing with a neck swelling.[4]

Plain X ray has no role except in chronic cases with calcification. Living cysticerci actively evade immune recognition and do not cause inflammation, but death of larva or leakage of fluid from cyst may trigger an acute inflammatory response. Fine needle aspiration cytology (FNAC) is therefore not suggested. High resolution sonography is considered pathognomonic of cysticercosis and can be used liberally for diagnosing muscular cysticercosis, as we did in our case.[1,5,6]

Computed tomography (CT) and ultrasonography (USG) are equally effective in identifying the cyst and scolex.[7]

Praziquantel (50 mg/kg/day) and albendazole (15 mg/kg/day) are drugs of choice for treatment of cysticercosis. Both these drugs are almost equally effective. The patient in our case was treated conservatively with albendazole. The duration of treatment must be 4 weeks. The side effects like fever, headache, nausea, vomiting and dizziness are reported with these medicines possibly due to inflammatory reaction produced by the host in response to massive destruction of cysticerci. A high dose of dexamethasone is suggested to prevent deleterious host inflammatory response.[8] In our case we used tablet albendazole 400 mg twice a day for 4 weeks. However, there was no inflammatory response.

A combination of oral albendazole and prednisolone has been also suggested in the management of myo-cysticercosis. Serial USG is a useful tool in studying the follow-up sequence of therapeutic response.[7] Serial USG done in our case showed regression in size of swelling.

Surgery does not have much role in muscular cysticercosis as most lesions are asymptomatic and most

of symptomatic lesions heal by medical treatment. Cases like cysticercosis of eyes and neurocysticercosis may require surgery. Our case was hence managed conservatively.

Cysticercosis is not likely to be the first diagnosis the otologist has in mind when regarding tumors in head and neck area.[9] Such solitary presentation of muscular cysticercosis is extremely rare with only handful of sporadic reports in literature. Hence, we reported this case.

Cysticercosis is a preventable disease. The prevention of cysticercosis involves good personal hygiene, effective fecal disposal and treatment and prevention of human intestinal infection.[10]

CONCLUSION

Otolaryngologists should consider parasitic etiology while dealing with neck swellings. Cysticercosis cellulosae can be diagnosed with confidence on high resolution sonography without need of invasive investigations like FNAC or excision biopsy. It can be managed by medical treatment. Serial follow up sonography can confirm that the disease is cured.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Singh R, Kumar S, Galagali JR, Ramakrishnan N. Solitary cysticercosis of sternocleidomastoid muscle: a rare entity. Int J Otorhinolaryngol Head Neck Surg 2016;2:277-9.