

# Cysticercosis of Masseter Muscle: A case report

Neha Verma<sup>1\*</sup> and Adit Srivastava<sup>2</sup>

<sup>1\*</sup> Senior Resident, Unit Of Oral Medicine And Radiology, Faculty Of Dental Sciences, Institute Of Medical Sciences , Banaras Hindu University, Varanasi, India

<sup>2</sup> Associate Professor, Unit of Oral Medicine And Radiology , Faculty Of Dental Sciences, Institute Of Medical Sciences , Banaras Hindu University, Varanasi, India

## Abstract

Cysticercosis is a disease of developing nations. It is infestation of larvae of *Taenia Solium* in intestines and subcutaneous tissues. Cysticercosis often goes undetected due to its asymptomatic nature or milder presentations. However it should be taken into consideration while diagnosing solitary muscular pathologies of oral cavity.

## 1. Introduction

Cysticercosis is caused by infestation of larval stage of *Taenia solium* parasite also known as tapeworm. *Taenia Solium* has a two stage life cycle human beings being definitive host and pigs or other carrier humans as intermediate hosts. Cysticercosis spreads through faeco-oral route through contaminated food. In its definitive host, larvae attaches to upper small intestine by means of hooks and suckers.<sup>1</sup> It also affects the subcutaneous tissue of brain, muscles, heart, liver, lungs, and peritoneum. Though oral involvement is rare but it has been reported as solitary or part of systemic cysticercosis. In oral cavity it involves tongue, buccal mucosa, labial mucosa, floor of mouth and at times muscles of mastication like masseter.<sup>2</sup> Involvement of masseter has been a rarely reported which is presented in our case.

## Case report

A 23 year old female patient reported in the department with complaint of swelling in right cheek region since 6-7 months. Patient was asymptomatic 7 months back when she noticed small swelling in her right cheek. Swelling gradually increased in size and was associated with pain on opening mouth. Patient took vegetarian diet with no other deleterious habits. On extraoral examination a well defined oval swelling, measuring 4x4 cm approximately hard in consistency, with mild pain on palpation was present in right cheek region. Swelling was not fixed to

underlying tissues in resting position but became fixed when patient clenched her teeth. [fig.1]



Fig. 1 extraoral swelling on right side of face

No infectious foci were seen on intraoral examination and radiographically. Based on clinical and radiographic assessment patient was provisionally diagnosed as a case of masseter muscle hypertrophy. Ultrasonography of the lesion showed a well-defined cyst with echogenic scolex and surrounding hypoechoic area in the right masseter muscle suggesting cysticercosis. [fig.2]

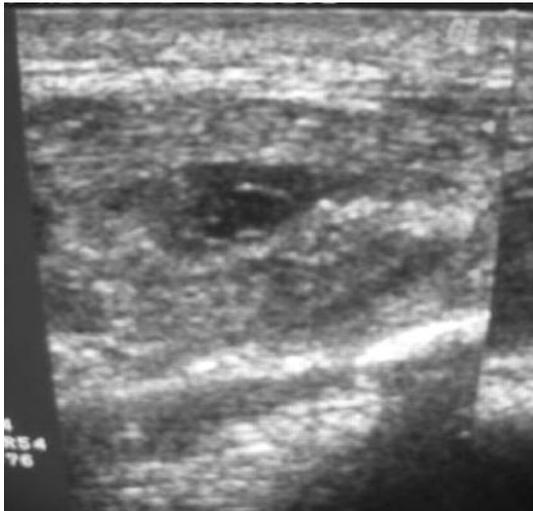


Fig .2 USG showing well-defined cyst with echogenic scolex

Patient was advised for MRI to check for involvement of brain. MRI showed a well defined cystic lesion with eccentric nodule in bulky and edematous masseter muscle of right side s/o cysticercosis no other tissue was involved. [fig.3]

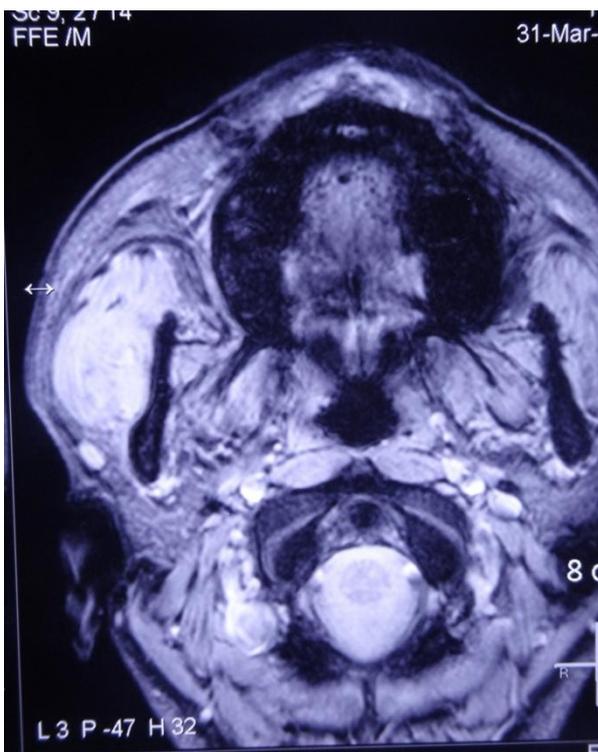


Fig.3 MRI showing well defined cystic lesion with eccentric nodule in bulky and edematous masseter muscle. Patient was put on antihelminthic medication Albendazole 400 mg twice daily for 30 days with follow up after every 10 days. There was regression in swelling and symptoms after 10 days with complete regression after 30 days.

## Discussion

Cysticercosis is a major public health issue in developing countries like India. Tapeworm eggs infest humans through ingestion of infected food, water and undercooked pork.<sup>3</sup> It often goes undetected due its mild presentation of symptoms or no symptoms at all. Mild symptoms include abdominal pain, diarrhea, malnutrition which are usually not taken care of.<sup>1</sup> Striated muscles are a favorable site of involvement with encysted larvae developing within 60-90 days. Clinically involvement of muscle can be categorized into following four categories:

- Myalgic Type
- Mass-Like
- Pseudotumour Or Abscess-Like Type
- Pseudohypertrophic

It can be accompanied with inflammation and abscess formation which was not seen in our case. It presents as a diagnostic dilemma due to overlapping features, it should be differentiated from mimicking diseases like salivary gland tumours, lipomas, epidermoid cysts and dermoid cyst and other soft tissue cysts.<sup>2</sup> histopathology examination is still important for definitive diagnosis; however ultrasonography has proven to be effective non invasive method of investigation.<sup>4</sup>

MRI is useful diagnostic tool to assess location, number and inclusion of surrounding tissues.<sup>5</sup> Albendazole (10–15 mg/kg/day for 2 weeks), Praziquantel (50 mg/kg/day for 3 weeks) are potent antihelmentics which can be combined with prednisolone to reduce inflammation. Medical management is considered effective in treating cases of Cysticercosis.

## Conclusion

Cysticercosis is a preventable health hazard. However in developing nations it should be taken into consideration in formulating diagnosis of asymptomatic solitary striated muscle masses and swellings.

## References

- [1] García HH, Gonzalez AE, Evans CAW, Gilman RH (2003) Taenia solium cysticercosis. *Lancet* 362: 547-556.
- [2] Riju JJ, Shiva Kumar AM, Sashikala P (2018) Cysticercosis of Cheek: A Case Report. *J Microbiol Pathol* 2: 109.
- [3] Sharma, R., Gautam, P., Kumar, S., Elhence, P., Bansal, R., & Gupta, G. (2011). Isolated cysticercosis cellulosa of sternocleidomastoid muscle: a case report with review of literature. *Indian journal of otolaryngology and head and neck surgery* : official publication of the

- Association of Otolaryngologists of India, 63(Suppl 1), 127-30.
- [4] Vijayaraghavan SB.( 2004). Sonographic appearances in cysticercosis. J Ultrasound Med. 23:423–427.
- [5] Martinez HR, Rangel-Guerra R, Elizondo G, et al.(1989)MR imaging in neurocysticercosis: a study of 56 cases. AJNR Am J Neuroradiol.10:1011–19.
- [6] Meena, D., Gupta, M., Jain, V. K., & Arya, R. K. (2016). Isolated intramuscular cysticercosis: Clinicopathological features, diagnosis and management - A review. Journal of clinical orthopaedics and trauma, 7(Suppl 2), 243-249.