

Case Report

Cysticercosis of tongue in a 4-year-old child: Rare entity

Dayanand Hota, Krishnendra Dhar Dwivedi¹, Aarti Sharma, Shailesh Patel

Department of Pediatrics, AIIMS, Raipur, Chhattisgarh, ¹Department of Pediatrics, Sharma PGIMS, Rohtak, Haryana, India

Abstract Cysticercosis is a parasitic disease caused by larval form of tapeworm. Infestation of human tissues is uncommon, and affliction of the oral cavity and tongue is rare. We are reporting a case of 4-year-old male child with painless cystic mass on the right border of tongue 1 cm × 2 cm × 2 cm in size firmly attached to tongue for 2 months. Histopathology reveals cysticercosis of tongue.

Keywords: Asia, parasitic infection, tongue

Address for correspondence: Dr. Dayanand Hota, AIIMS, Raipur, Chhattisgarh, India.

E-mail: dayanandhota@gmail.com

Submitted: 23-Mar-2020, **Revised:** 21-May-2021, **Accepted:** 04-Oct-2021, **Published:** 25-Feb-2022

INTRODUCTION

Cysticercosis is caused by larval stage of *Taenia solium* also known as pork tapeworm. After the eggs are ingested by feco-oral route, the larvae are released from the eggs, invade through the intestines, and migrate through the bloodstream to the muscles and other parts of body, where they form tissue cysts. Infection with the cystic form is termed cysticercosis, and most commonly affect skeletal muscles, subcutaneous tissues, visceral organs, central nervous system, and both extraocular and intraocular tissue. Involvement of the central nervous system is termed as neurocysticercosis which contribute 30% of epilepsy cases in the endemic areas including India. Although the incidence of soft-tissue cysticercosis is relatively high in south Asian countries, poverty and poor sanitary hygiene are most common contributory factors for its higher incidence among Asian population. We are reporting a case of isolated cysticercosis of tongue. It has been rarely reported in the past.^[1]

CASE REPORT

A 4-year-old male child brought to us with a well-defined cystic mass in the right lateral border of tongue. The mass was initially small in size but gradually progressed to present size over the past 30–40 days. Child also had difficulty in chewing and talking. There was a history of two episodes of bleeding from mass while eating. Child never complained of pain. On examination, mass was present over right lateral border of tongue, approximately 1 cm × 2 cm × 2 cm in size, nontender, cystic in consistency and had smooth surface [Figure 1]. Cystic lesion was immobile and firmly attached to tongue. There was no difficulty in tongue movement while examining the mass.

Fine-needle aspiration cytology (FNAC) of swelling was performed using a 22G size needle. The Giemsa staining was done after drying of slides and fixing with methanol. On microscopic examination, thick blue spherules with pinkish blue fibrillary material along with many interspersed tiny blue nuclei were giving honey comb appearance [Figure 2]. Final diagnosis was confirmed by histopathological examination.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Hota D, Dwivedi KD, Sharma A, Patel S. Cysticercosis of tongue in a 4-year-old child: Rare entity. *Int J Head Neck Pathol* 2020;3:12-4.

Access this article online	
Quick Response Code:	Website: www.ijhnp.org
	DOI: 10.4103/JHNP.JHNP_4_20



Figure 1: Image showing large cystic mass right lateral aspect of tongue

DISCUSSION

Human usually gets infested through the ingestion of larval cysts (cysticerci) of tapeworm in partially cooked and infected pork (intermediate host).^[2] Ingested egg and larval stage of tapeworm by feco-oral route invade intestine and reach to the different parts of body including skeletal muscles all over body, subcutaneous tissues, visceral organs, brain, and ocular tissue. Tapeworm-related diseases have been eradicated from most part of the world, especially developed countries, but are still present with higher prevalence in South and Central America, Southeast Asia including India and China. The ingested eggs rupture at gastrointestinal tract of pig and it releases large amount of oncospheres. They penetrate and enter systemic circulation through gut wall, from where it lodges into various organs and muscle, finally develop into encysted larvae in organ or tissue. Eating undercooked or raw contaminated pork serves as a mode of transmission to humans. Saran *et al.* studied total 120 cases of cysticercosis, out of all cases, only 4.2% of cases were involving the oral cavity.^[3] According to the published literature reports, oral cysticercosis is prevalent in up to 4.1%.^[4] Commonly intraoral sites involved are tongue, buccal mucosa, and lips. Cysticercosis of tongue is overall rare. Although oral and subcutaneous forms are asymptomatic, they are detected early because of their superficial location in oral mucosa. Differential diagnosis of oral lesions with similar presentation includes pleomorphic adenoma, lipoma, or fibroma. In neurocysticercosis cysticerci, larvae may lodge in brain parenchyma, meninges, and ventricular system which usually presents with focal seizures and other signs-symptoms depending on the area of CNS involvement. Diagnosis of Neurocysticercosis is aided by neuroimaging, while tissue cysticercosis is by history, clinical examinations and confirmed by histopathology.

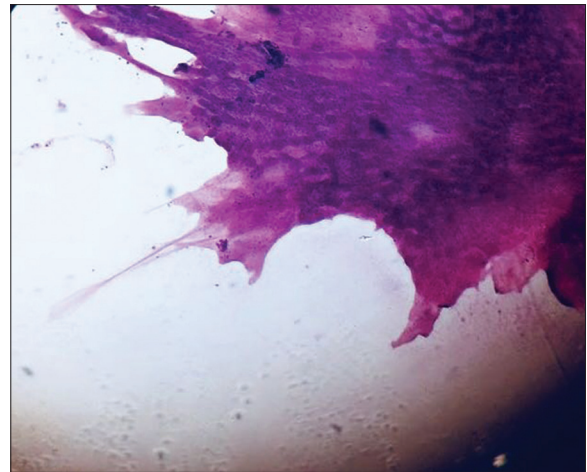


Figure 2: Fine needle aspiration cytology showing thick blue spherules on microscopic examination with pinkish blue fibrillary material along with many interspersed tiny blue nuclei giving honey comb appearance

Calcified cysticerci of tissue may be demonstrated by X-ray.^[5] FNAC is a most commonly performed procedure to diagnose a palpable subcutaneous or intramuscular nodule.^[6] The treatment of tissue cysticercosis varies depends upon area of its presence, whether the lesion is amenable to excision as well as symptoms. Although multiple cysts and neurocysticercosis are usually treated by conservative management using drugs (albendazole and praziquantel), surgical excision of solitary lesions remains the treatment of choice for accessible nodules.^[7] We are reporting this case because of scarcity in literature as well as the use of fine FNAC as one of the main and a primary diagnostic techniques for oral or tongue cysticercosis.

CONCLUSION

Tongue is rare site to be involved in cysticercosis, usually present with asymptomatic painless cystic mass, and diagnosis is confirmed with FNAC and histopathology. Outcome is very good to cysticidal therapy.

Consent to participate

Consent was taken from parent.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient's parents have given his consent for his images and other clinical information to be reported in the journal. The patient's parents understand that his names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Pichare AP, Rujuta AV, Sanjeevani M, Baradkar VP. Lingual cysticercosis. *Indian J Med Microbiol* 2014;32:185-7.
2. García HH, Gonzalez AE, Evans CA, Gilman RH; Cysticercosis Working Group in Peru. *Taenia solium* cysticercosis. *Lancet* 2003;362:547-56.
3. 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 Paediatr Dent* 1998;8:273-8.
4. Nigam S, Singh T, Mishra A, Chaturvedi KU. Oral cysticercosis – Report of six cases. *Head Neck* 2001;23:497-9.
5. Del Brutto OH. Diagnostic criteria for neurocysticercosis, revisited. *Pathog Glob Health* 2012;106:299-304.
6. Suchitha S, Vani K, Sunila R, Manjunath GV. Fine needle aspiration cytology of cysticercosis – A case report. *Case Rep Infect Dis* 2012;2012:854704.
7. García HH, Evans CA, Nash TE, Takayanagui OM, White AC Jr., Botero D, *et al.* Current consensus guidelines for treatment of neurocysticercosis. *Clin Microbiol Rev* 2002;15:747-56.