CASE REPORT

Unexplained Trismus: Parasitic Infection?

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Introduction

An array of diagnoses comes to mind when a patient presents with trismus. Although infections of masticatory spaces are common, parasitic infections are seldom included in differential diagnosis. We present an atypical case of trismus, which incidentally led to an unusual diagnosis of cysticercosis of temporalis muscle.

Case Report

A 30-year-old female presented with reduced mouth opening (15 mm at first visit) and a painful swelling over right side of head for past 2–3 months. She reported occasional episodes of dizziness and headaches over past 1.5 months with a history of fall, 3 months back. On clinical examination, diffuse, tender, firm swelling was present in right temporal region measuring approximately 1.5×2 cm (Fig. 1).

Suspecting traumatic aetiology, computed tomography (CT) scan was advised, which showed no abnormality. Subsequently, magnetic resonance imaging (MRI) scan was advised to detect any traumatic injury to brain, which revealed two cystic lesions with eccentric nodules in right temporalis (Fig. 2a). The findings were strongly suggestive of cysticercosis, with eccentric nodule possibly

representing scolex of larva. Moreover, ultrasonography (USG) of temporalis muscle showed cystic lesion measuring 0.5×0.9 cm with an eccentric nodule, also suggestive of cysticercosis.

A diagnosis of intramuscular cysticercosis was thus established, and patient was started on 400 mg oral albendazole twice daily and 40 mg oral prednisolone once daily for 10 days. On the 10th day, patient reported marked improvement in symptoms and an increase in mouth opening to 25 mm (Fig. 3). Albendazole was discontinued, and prednisolone was tapered off. The patient was advised active jaw opening physiotherapy.

A second MRI scan taken at 6-month follow-up showed complete resolution of lesion (Fig. 2b). A significant improvement in mouth opening with no recurrence of symptoms was seen in total of 18-month follow-up.

Discussion

Cysticercosis in maxillofacial region is relatively infrequent, with a total of 69 cases reported, despite its high prevalence in developing countries and its affinity for highly vascular tissues [1]. In oral cavity, most cases are seen in tongue, followed by buccal mucosa, lower lip and upper lip. Additionally, a literature search revealed only six reported cases of intramuscular cysticercosis [1–4] making documentation of each case significant.

A multitude of diagnostic criteria's are required for confirmation of cysticercosis (Table 1) [5]. High-resolution sonography provides more information than MRI in relation to muscle pathology [2]. In our patient, the presence of a characteristic scolex on both MRI and USG satisfied absolute criterion for diagnosis.

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Fig. 1 Clinical findings on the first visit

Fig. 2 MRI findings before (2a) and after (2b) medicinal therapy

Fig. 3 Mouth opening at 10-day follow-up

Treatment for intramuscular cysticercosis has been variably recommended, ranging from observation of asymptomatic lesions to surgical excision. Albendazole (5 mg/kg body weight 3 times daily for 1–4 weeks) and praziquantel are potent anthelmintics used to treat cysticercosis. Corticosteroids (prednisolone 1 mg/kg) may be used as an adjuvant to minimise inflammatory reaction seen after death of larvae [6]. Our patient responded well with medicinal management, with complete resolution of symptoms in 10 days.

Table 1 Diagnostic criteria for human cysticercosis (Ref. [5])

S. no.	Absolute criteria	Major criteria	Minor criteria	Epidemiologic criteria
1.	Demonstration of cysticerci by histologic or microscopic examination of biopsy material	Neuroradiologic lesions suggestive of cysticercosis	Lesions compatible with neurocysticercosis detected with neuroimaging studies	Residence in a cysticercosis-endemic area
2.	Visualisation of the parasite in the eye by fundoscopy	Demonstration of antibodies to cysticerci in serum by enzyme-linked immunoelectrotransfer blot	Clinical manifestations suggestive of neurocysticercosis	Frequent travel to a cysticercosis-endemic area
3.	Neuroradiologic demonstration of cystic lesions a containing characteristic scolex	Resolution of intracranial cystic lesions spontaneously or after therapy with albendazole or praziquantel alone	Demonstration of antibodies to cysticerci or cysticercal antigen in cerebrospinal fluid by enzyme-linked immunosorbent assay	Household contact with an individual infected with <i>Taenia solium</i>
4.			Evidence of cysticercosis outside the central nervous system (e.g., cigar-shaped soft tissue calcifications)	
(I) Diagnosis is confirmed by either one absolute criterion or a combination of two major criteria, one minor criterion and one epidemiologic criterion				
(II) A probable diagnosis supported by the fulfilment of:				
(1) One major criterion plus two minor criteria				
(2) One major criterion plus one minor criterion and one epidemiologic criterion				
(3) Three minor criteria plus one epidemiologic criterion				

Conclusion

In endemic countries, cysticercosis should be included in clinician's list of differential diagnosis of trismus with solitary swellings. The authors recommend that conservative treatment using anthelmintics be initiated for symptomatic cases, augmented by long-term follow-up. Surgical excision may be reserved for larger lesions, or those persisting after medicinal treatment.

Compliance with Ethical Standards

Conflict of interest The authors hereby declare that they have no conflicts of interest.

Informed Consent Informed consent was obtained from the patient included in the study.

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