ORIGINAL RESEARCH PAPER

Radiodiagnosis

AN UNSUSUAL CASE OF ISOLATED EXTRAOCULAR MYOCYSTICERCOSIS: MASQUERADING AS A SUPERIOR RECTUS MUSCLE ABSCESS

KEY WORDS:
myocysticercosis, superior rectus, abscess, lymphoma, parasitic infection

Krupa Shah — Resident, Department of Radio diagnosis, Padmashree Dr. D.Y. Patil Medical College, Dr. D.Y. Patil hospital, Nerul, Sector-5, Navi Mumbai, Maharashtra, India - 400706

Patel Rajkumar* — Resident, Department of Radio diagnosis, Padmashree Dr. D.Y. Patil Medical College, Dr. D.Y. Patil hospital, Nerul, Sector-5, Navi Mumbai, Maharashtra, India - 400706 *Corresponding Author

Sarfaraz Shaikh — Lecturer, Department of Radio diagnosis, Padmashree Dr. D.Y. Patil Medical College, Dr. D.Y. Patil hospital, Nerul, Sector-5, Navi Mumbai, Maharashtra, India - 400706

Madan Manmohan — Professor & Head of the department, Department of Radio diagnosis, Padmashree Dr. D.Y. Patil Medical College, Dr. D.Y. Patil hospital, Nerul, Sector-5, Navi Mumbai, Maharashtra, India - 400706

Dr. Om Tavri — Professor, Department of Radio diagnosis, Padmashree Dr. D.Y. Patil Medical College, Dr. D.Y. Patil hospital, Nerul, Sector-5, Navi Mumbai, Maharashtra, India - 400706

ABSTRACT

Human cysticercosis is caused by the larval form of the swine tapeworm Taenia solium. It can affect the central nervous system, the eye, skeletal muscles and subcutaneous tissues. In the orbit, cysticercosis can lodge into any extraocular muscle or other adnexal structures and are usually found as part of a generalized systemic infestation and very rarely seen with isolated infestation of a single extraocular muscle. Hence, sometimes as it was in our case, it is very difficult to differentiate an isolated extraocular muscle cysticercosis from extraocular muscle abscess or lymphoma. So, we, at our institute report a rare and unusual case of isolated right superior rectus muscle cysticercosis which presented with ptosis and painless swelling of the right upper eyelid, which was in fact discovered later masquerading as a superior rectus abscess.

INTRODUCTION

Human cysticercosis is a parasitic infection caused by Cysticercus cellulosae, the larval form of the cestode, Taenia solium. Cysticercosis is endemic in the developing countries. It is considered to be the most common parasitic disease of the central nervous system. It also affects the eye, skeletal muscle and subcutaneous tissue. The extraocular muscles are the most common site involvement of orbital cysticercosis. All the extraocular muscles can be involved in myocysticercosis. However, the lateral rectus, medial rectus and superior oblique muscles are more commonly involved. But isolated involvement of a solitary extraocular muscle is very rare. The classical description of orbital cysticercosis is that of an anterior orbital mass with a severe inflammatory reaction. The clinical manifestations vary depending on the location, size, relation to adjacent structures and the stage of development of the cystic lesion. The common presenting features include proptosis, restricted ocular motility with diplopia, and recurrent pain and redness. Other features can be sub conjunctival cyst, optic neuritis, ptosis, papilledema, lid nodule, and intravitreal or subretinal cysts. Optic nerve involvement is rare. Optic nerve compression by the cyst can be associated with decrease in visual acuity and papilledema. Clinical, laboratory and radiological correlation is to be done to diagnose this condition.

CASE REPORT

A 17-year-old male, presented to our institute with the complaints of gradual onset right orbital double vision, ptosis and painless swelling of upper eyelid. He had no restriction in ocular motility. There were no associated comorbidities in the form of diabetes mellitus or hypertension. The patient didn't give any history of trauma at that time.

Detailed ophthalmic examination was performed for the patient. Torch light and anterior slit lamp microscopic examination was performed which revealed ptosis and without any obvious signs of acute inflammation. Indirect ophthalmoscopy showed sclera and cornea to be normal with the pupils bilaterally symmetrical and reacting to light. The visual acuity was found to be 6/6 on left side and 4/6 on right side. There was right proptosis of almost 3 mm.

General physical and neurological examination was also done. The systemic general examination was unremarkable except for mild increase in the body temperature. Hematological tests were advised, which revealed increased total leucocyte count (11,600/cc) with mild eosinophilia. The clinicians gave provisional diagnosis as right superior rectus muscle abscess.

The patient was referred for further evaluation to the department of Radio-diagnosis and to rule out lymphoma. MRI orbit (Plain + contrast) was performed by the 1.5 Tesla GE Optima machine. A fairly well defined, cystic lesion which appears hypointense on T1W and hyperintense on T2W images was seen in the conal compartment of the right eye, involving the region of superior rectus muscle. The lesion demonstrates hyperintense signal on Diffusion Weighted Images with corresponding drop on Apparent Diffusion Coefficient images suggestive of restricted diffusion on. On post contrast T1W images, the lesion shows peripheral enhancement. The findings were reported as an isolated superior rectus muscle abscess with concurrent preseptal cellulitis, with other differential diagnoses being lymphoma and orbital pseudo tumor.

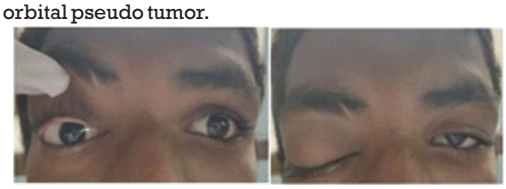

Figure 1: Physical examination showed ptosis and swollen right upper eyelid.

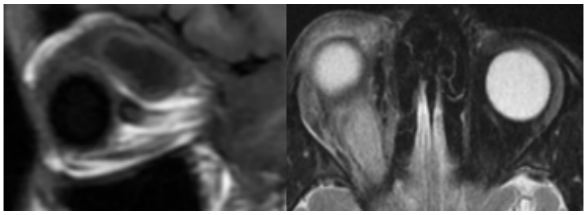

Figure 2: Oblique SAG (Right orbit) T1W and axial T2W (orbital region) MR images shows a well-defined, cystic lesion within the right superior rectus muscle which appears hypointense on T1W and hyperintense on T2W images.

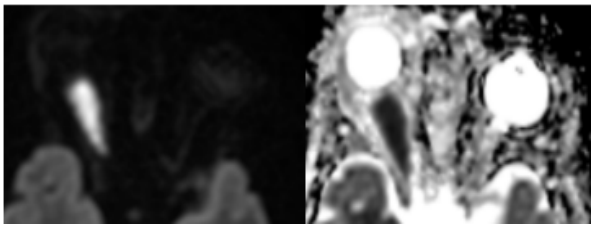

Figure 3: Axial DWI and ADC MR images of the orbital region respectively, shows the lesion demonstrating restricted diffusion.

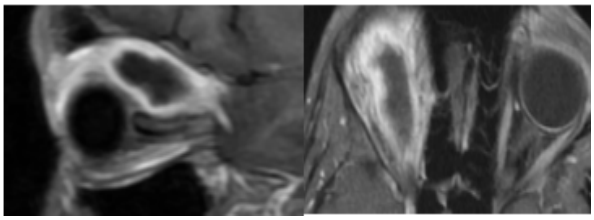

Figure 4: Oblique SAG (Right orbit) and axial T1W+Contrast images (orbital region) shows peripheral rim enhancement with central non enhancing area within the lesion.

Furthermore, limited non-enhanced Computed Tomography cuts were taken on 128 slice CT GE Optima machine to evaluate any bony involvement or erosion and aid in the diagnosis. A heterogeneously hypo- isodense area involving the belly of right superior rectus muscle.

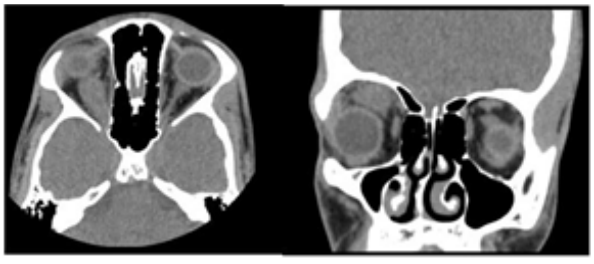

Figure 5: NE–CT axial and coronal images of the orbital region showing a heterogeneously hypo-isodense lesion in the region of right superior rectus muscle without any bony erosion.

Meanwhile, the patient was started on weight based steroid medications in the form of Tablet Prednisolone 1mg/kg which was gradually shifted to Inj. Dexamethasone 4mg IV BD under the cover of antibiotics (Inj. Augmentin 1.2 gm IV TDS). The patient was later taken to the operation theatre for incision and drainage for further management. However, there was no obvious pus discharge on incising the lesion. Mild reactive fluid was noted. So curettage of the walls of lesion was done instead and soft tissue biopsy specimen was sent for histopathological evaluation.

The biopsy specimen reports were astounding and revealed the presence of Cysticercus cellulosae in the specimen. In retrospect, after meticulous history taking, the patient gave a history of thorn prick trauma to the right eye before few months. Then, the treatment paradigm was shifted towards the cestode. The patient responded well to the treatment. Also, follow-up MRI scan of the orbit was done later on, which demonstrated significant reduction in the size of the lesion in the region of right superior rectus muscle.

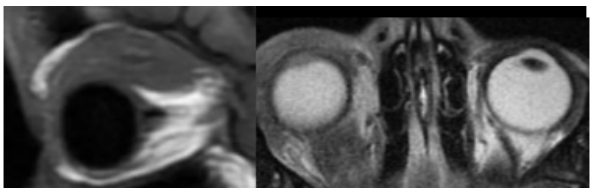

Figure 6: Oblique SAG (Right orbit) T1W and axial T2W (orbital region) MR images on follow-up scan show significant reduction in the size of the lesion in the region of right superior rectus muscle.

CONCLUSIONS

To conclude, cysticercoids can present in unusual ways which are still not well understood or documented. Therefore, one should always keep myocysticercosis as a differential diagnosis in mind while dealing with any extraocular muscle cystic lesions. Meticulous history taking, efficient local and general examination with multi-modality radio-pathological correlation is must for the accurate diagnosis of myocysticercosis.

REFERENCES:

[1] Dhiman, Rebika & Devi, Saranya & Duraipandi, Kavitha & Chandra, Parijat & Vanathi, Murugesan & Tandon, Radhika & Sen, Seema. (2017). Cysticercosis of the eye. International Journal of Ophthalmology. 10. 1319-1324. 10.18240/ijo.2017.08.21.

[2] Chaudhary V, Bano S, Parmar PR, Bidasaria N, Bajaj S. Extraocular muscle cysticercosis mimicking as pseudotumor orbit: A clinical dilemma. Neurol India [serial online] 2013 [cited 2021 Feb 23];61:665-7. Available from: https://www.neurologyindia.com/text.asp?2013/61/6/665/125287

[3] Grover A K, Puri P. Orbital myocysticercosis presenting as subconjunctival abscess. Indian J Ophthalmol [serial online] 1996 [cited 2021 Feb 23];44:229-31. Available from: https://www.ijo.in/text.asp?1996/44/4/229/24566

[4] Kumar, Raj, Namit Singhal, Rabi Narayan Sahu, Samir Kumar Kalra, Kumudini Sharma, and Ashok Kumar Mahapatra. "Isolated superior rectus abscess following traumatic blunt injury to the eye." Journal of Pediatric Neurology 6.3 (2008): 287-292.