AN UNUSUAL CASE OF CYSTICERCOSIS PRESENTING AS SUBCUTANEOUS EYELID MASS

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ABSTRACT

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Cysticercosis is a parasitic infection caused by larval form of Taenia Solium. It is endemic in developing countries like India. A handful of cases of eyelid cysticercosis have been reported in the literature till now, despite quite high incidence of brain and ocular involvement. Here we report a case of eyelid mass in 26 yr old female. The surgical excision of mass was done and diagnosed as a case of isolated cysticercosis on imaging and histopathological examaination.

KEYWORDS: Cysticercosis, Eyelid, Histopathology.

INTRODUCTION

Human cysticercosis is a parasitic infection which is caused by Cysticercus cellulosae, the larval form of the tapeworm, Taenia solium. Cysticercosis is endemic in Mexico, Africa, South East Asia, Eastern Europe, Central and South America and India. In India, cysticercosis is more prevalent in Northern states of Bihar, Orissa, Uttar Pradesh and Punjab (1). The central nervous system, striated muscles, eyes and subcutaneous tissue are the most commonly affected sites in human (2). In the eye, major sites of infestation are subretinal space, uvea, anterior segment, conjunctiva, optic nerve, orbit, retro-orbital space and lacrimal gland (3). A very few cases of an eyelid cysticercosis have been reported in medical literature till now, among which, the frequency of the lower eyelid being involved is noted to be less. An isolated eyelid cysticercosis without neuro-muscular involvement is also very rare(4). We report a rare case of lower evelid mass in a 26 yr old female that was diagnosed as cysticercosis on histopathological examination.

CASE REPORT

A 26 years old female presented with a painless swelling over the right lower eyelid near lateral canthus measuring approximately 1×1 cm since two years. On examination, the swelling was soft to firm in consistency, non tender and mobile without any eyelid edema. There were no other significant symptoms. The visual acuity, movement of eyeball and fundoscopy were unremarkable. The left eye was absolutely normal. General examination revealed no other abnormality. Hematological investigations were Address for correspondence

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within normal limit. Ultrasonography showed an illdefined soft tissue enhancement in the right lower eyelid. CT scan revealed a homogenous soft tissue mass of the eyelid without any bony involvement. Clinically it was looked like a sebaceous cyst. She was anxious and gave consent for excision of the mass for cosmetic reasons. Fine needle aspirate smear showed foci of keratinous debris and few degenerate cells and eosinophils with no viable cellularity. Local excision of the right lower eyelid swelling was performed under local anaesthesia by the ophthalmologist and specimen sent for histopathological examination.



Fig 1: Microscopy Revealed A Degenerating Cysticercus Larva, With Duct Like Invaginations Lined By Homogenous Membrane And Degenerated Scolex With Granulomatous Inflammatory Reaction Composed Of Lymphocytes, Plasma Cells, Histiocytes And Giant Cells. Haematoxylin and Eosin x 10X

Grossly, the specimen was a single grey brown nodule measuring 1x0.8x0.5cm, with gelatinous, grey white cut surface. Microscopy revealed a cystic structure containing degenerating cysticercus larva, caudal end of which showed duct like invaginations lined by homogenous membrane. Parenchymal layer showed mesenchymal cells and calcerous spherules. Scolex had features of hyaline degeneration. Hook-lets and sucking discs were not discernible. The cyst was surrounded by fibrous pseudocapsule which showed granulomatous inflammatory reaction composed of lymphocytes, plasma cells, histiocytes and giant cells. (Fig 1 & 2) Our patient was given a course of Albendazole, 15 mg/kg/day for 10 days. On follow up, our patient is doing well.



Fig 2: High Power of Figure 1

DISCUSSION

Cysticercosis can be defined as the development of extra intestinal infection by encysted larval forms of T. Solium in various organs other than central nervous system. The human becomes the intermediate host by ingestion of contaminated food by gravid ova or eggs like undercooked pork or water.⁴ In India, the solitary lesion is the most common presentation and its incidence being 47.7% - 53.4% (2). Ocular cysticercosis accounts for 1.4-4.5% cases of cysticercosis in India.⁵ The frequency of occurrence of cysts in the eye is subretinal (35.0%), vitreous (22.0%), conjunctiva (22.0%), anterior segment (5.0%) and orbit (1.0%). The eyelid is involved in 0.6% of cases. Other studies claim that involvement of eyelid or orbit is 4.0%, sub-conjunctival space is 20.0%, anterior segment is 8.0%, and posterior segment is 68.0% (2,4). Extraocular muscle is the commonest intraorbital site (4). Medial rectus is commonly involved followed by lateral rectus and superior oblique, superior rectus is rare. In our case we found an eyelid cysticercosis without involving

muscles and brain, which occurred in very low percentage as compared to simultaneous involvement of eye and brain. Left eye is more commonly affected than right and medial aspect is more frequently involved than lateral aspect (5). In our case, no other organ was involved.

In the modern era, we have various techniques to make the diagnosis of cysticercosis. In this list, Ultrasonography is the first and most convenient, non invasive and highly accurate method. As study by Gupta et al reported that utrasonography shows characteristic low reflective cysts and high reflective scolices inside (6).

Computed Tomography Imaging and Magnetic Resonance Imaging are used mainly to rule out any central nervous system involvement by T.solium. On imaging, it is seen as hypodense area containing hyperdense scolex surrounded by non enhancing cyst wall and sometimes calcification that confirms the diagnosis. This is of medical importance also because treatment of cysticercosis by antihelminthic drugs before screening for central nervous system involvement may cause a paradoxical reaction that may impair the outcome of cysticercosis (7).

Fine Needle Aspiration Cytology is an effective method of diagnosis of subcutaneous lesion of cysticercosis. The smears of cysticercus cyst shows clear fluid rich in eosinophils, lymphocytes, neutrophils, multinucleated giant cells, fibrillary material with embedded multiple small nuclei and very rarely hooklets (8).

Grossly cysticercus cysts appear as round or oval vesicles, which can varied from few mm to 1-2 cm in size. Viable cysts are translucent, filled with clear fluid through which the scolex can be seen as a whitish nodule of 2-3 mm diameter (9). Histopathologically larva within the cyst cavity is surrounded by fibrous pseudocapsule showing granulomatous inflammatory reaction. The cephalic end of the larva shows scolex having four suckers. The caudal end of the larva shows duct-like invaginations giving a racemose appearance. The outer, cuticular layer of larva appears smooth and hyalinized lined by tegumental cells. The inner layer is loose and reticular containing mesenchymal cells and spherical, bluish purple noncellular calcerous corpuscles (10).

It is stated that inflammatory response produced by viable cysts is less, while the degenerating cyst releases antigens into the surrounding tissue that incites inflammatory response. There are three stages of cyst which depends on host immune response. The colloidal stage shows opaque and dense vesicular fluid and hyaline degeneration of scolex with infiltration of eosinophils, lymphocytes and histiocytes. In granular stage, as the name implies coarse granules replace scolex and fibrosis of wall begins. Calcified stage follows granulomatous reaction and calcification of parasitic debris forms a rounded, whitish, calcified nodule (10). The various stages of stages of cysts present different morphological patterns also.

In our case, the unusual location and misleading history precluded us from keeping cysticercosis as a first diagnosis. The diagnosis was confirmed on histopathology with aid of imaging. The most common differential diagnoses for a longstanding cystic eyelid mass include dermoid cyst, sebaceous cyst, epidermoid cyst, neurofibroma, psuedotumor and lipoma (11).

The treatment regimen includes antihelminthics like albendazole or praziquantel for extraocular muscle form and orbital cysticercosis. However surgical method is adopted for eyelid and intraocular cysticerscosis (12).

CONCLUSIONS

A very high index of suspicion of cysticercosis should be kept in mind, while making the diagnosis of long standing subcutaneous eyelid swelling. The imaging techniques and FNAC provides more light in such cases when history or clinical examinations are misleading, but accurate histopathology is the main rescue. As cysticercosis is a preventable disease, health education and mass treatment of parasite carriers may help in reducing the burden of this disease in country like India.

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