

Case report

Isolated Retrobulbar Orbital Hydatid Cyst: A Rare Case Report

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Abstract:

Isolated orbital hydatid cyst is a rare manifestation most commonly situated in superomedial and superolateral angles of orbit. We report a case of a 24 years old female with a large retrobulbar orbital hydatid cyst causing proptosis which was not associated with any cyst in other organs. USG and CT scan aids to diagnosis while surgical excision and histopathology confirms the diagnosis.

Key Words: Orbital hydatid cyst, Retrobulbar, Isolated, Ultrasonography, Computed tomography.

Introduction:

Isolated retrobulbar orbital hydatid cyst is a rare manifestation accounting for 1% of all the hydatid cysts¹⁻⁵. It is a parasitic infection caused by Echinococcus, a genus of tapeworm. Most common sites of hydatid cysts are liver and lungs but it may also occur at various other regions of the body like brain, orbit, bones etc⁶. During the process of migration of the larvae from the gut, the liver and lungs act as natural barriers explaining the less common sites of involvement of the orbit and brain in this rare disease. Hematogenous spread is the most common route. Common clinical manifestations of orbital hydatid cysts are exophthalmos with or without pain, chemosis, keratitis, lid edema, visual impairment and restriction of ocular mobility^{3-5,7}.

On ultrasonography (USG) it appears as a well circumscribed cystic structure with low level internal echoes. Computerized tomography (CT) scan reveals unilocular or multilocular, well-defined intraorbital cystic lesion of near water attenuation⁸. As hydatid cyst is more commonly manifested as orbital cyst, so it differentiates cysticercus cellulosa infection which commonly manifests as ocu-

lar cyst⁹. Hence, we present a rare case of isolated retrobulbar hydatid cyst of the left orbit on USG and CT which was removed surgically followed by histopathological confirmation.

Case Presentation:

A 24 years old female presented with painless progressive protrusion of left eye for 4 months associated with diminution of vision. There was also history of trauma of the head 3 years prior to the onset of this illness which was coincidental. The visual acuity in the left eye was decreased and was normal in the right eye. The consensual pupil reactions in the right eye and direct reactions in the left eye were sluggish. The left eye was proptosed with the eyeball protruding downward and medially with restricted ocular movements and chemosis. There was lagophthalmos with incomplete closure of the eye resulting in exposure keratitis (Figure 1). On fundoscopy, there was optic disc pallor. Hematological examination revealed leukocytosis and increased erythrocyte sedimentation rate (ESR). The general physical examination was normal. USG of left orbit showed a well-defined hypoechoic cystic mass of size 6.2x3.8 cm in retrobul-

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bar region on superolateral quadrant. CT scan of orbits (Figure III and IV) was done in axial section with sagittal reconstruction (Figure II) which revealed a well circumscribed, retrobulbar cystic lesion of size 6.2x3.8 cm in the left orbit with few internal echoes within, displacing the eyeball antero-infero-medially resulting in proptosis. There was mild enhancement of the wall of the cyst on post-contrast study. There was expansion of the left orbit on bone window (Figure V). Chest radiography and abdominal USG showed no evidence of hydatid cyst. The imaging findings were consistent with intraorbital hydatid cyst.



Figure 1: Photograph of the patient showing proptosis, chemosis and keratitis of left eye.

After informed consent the patient underwent surgery and the cyst was removed completely without rupture. A systemic oral albendazole was advised after surgery for prevention. The patient's postoperative course was uneventful. The histopathological examination revealed the laminated cyst membrane and scolices. On follow-up examination after five months of surgery, the patient was apparently well and her ocular mobility and vision was improved.

Discussion:

Hydatid cyst is found worldwide; however most commonly seen in countries where sheep and cattle are breed together. Humans are usually affected due to consumption of uncooked vegetables contaminated by the feces of dogs containing ova of echinococcus. Orbital involvement is rare manifestation and it tends to involve retrobulbar region, may be intraconal or extraconal, in the superomedial or superolateral quadrant of the orbit^{3,5,10-13}.

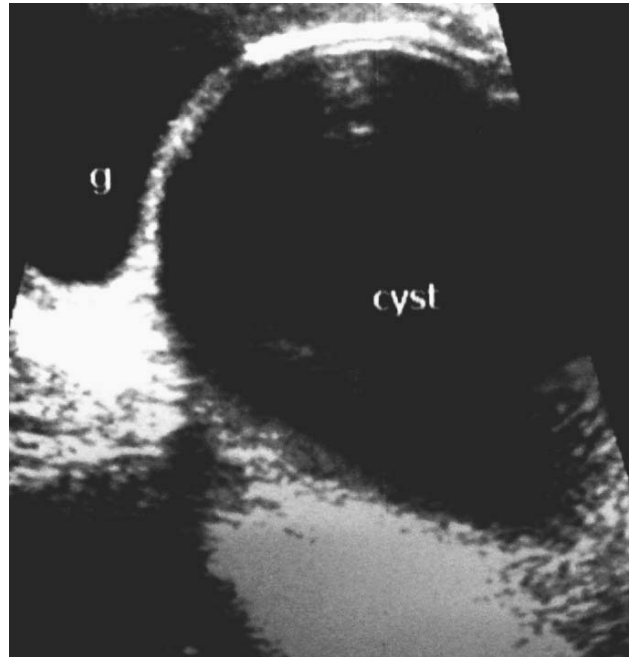


Figure 2: Ultrasonography of the left orbit showing cystic lesion in the retrobulbar region with displaced globe (g).



Figure 3: Contrast enhanced CT scan (axial image) of the orbits showing hypodense lesion of near water attenuation in the left orbit in the supero-lateral quadrant.

USG and CT scan of orbit are helpful imaging modalities in aiding the diagnosis and prevent complications of intraorbital hydatid cyst¹⁴. It is usually associated with significant morbidity with complications related to proptosis and compressive effects of enlarging cyst on orbital contents i.e. optic nerve atrophy and exposure keratitis.

Complete surgical excision is the primary treatment in these cases, but chemotherapy should be used if a cyst ruptures or for prevention of relapse^{3,4,5}. Treatment with albendazole is useful, if

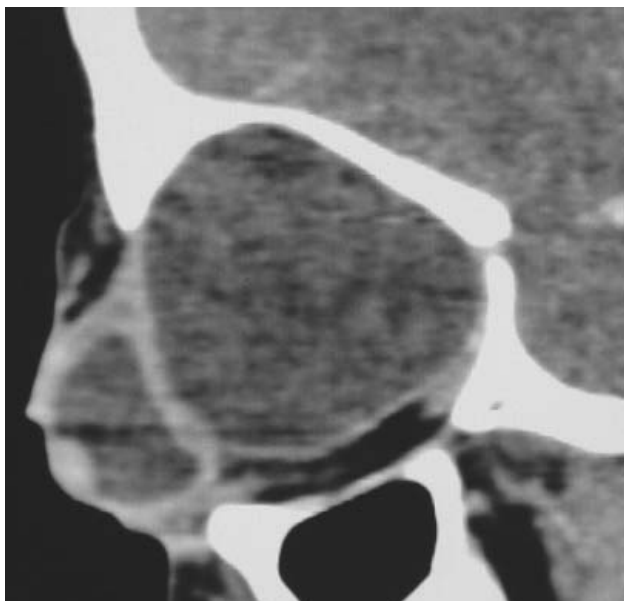


Figure IV: Contrast enhanced CT scan (sagittal image) of the left orbit showing hypodense lesion of near water attenuation causing proptosis of the globe.

administered before surgery and is used as an adjunctive therapy to surgery^{1,4}.

The early diagnosis along with surgical management of orbital hydatid cyst has good results in the most of the patients. Rupture of the cyst during surgery is the most significant complication which may lead to relapse of the disease. In our case the cyst was removed in toto without rupture which

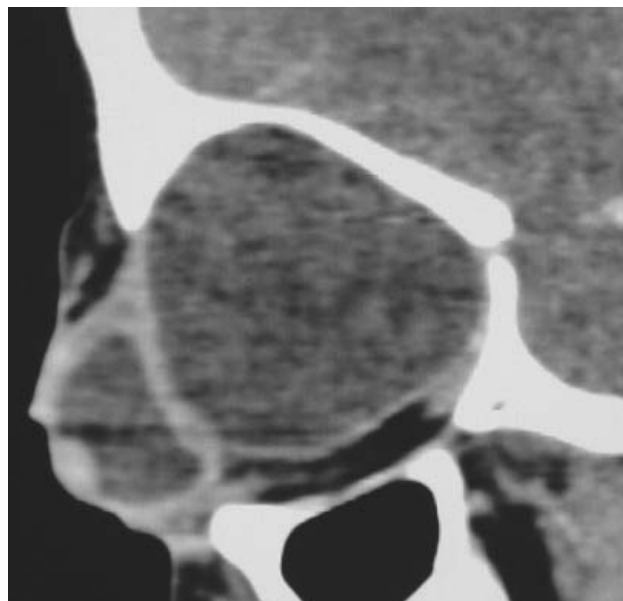


Figure V: CT scan axial image (bone window) of the orbits showing expansion of the left orbit. was confirmed to be hydatid cyst on histological examination.

Conclusion:

Isolated orbital orbital hydatid cyst though rare, should always be included in the differential diagnosis of orbital masses and USG and CT scan of orbit are important imaging modalities for diagnosis of orbital hydatid cyst while surgical excision is an effective modality for the treatment of such large hydatid cyst of the orbit.

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