

CASE REPORT

Can Orbital Hydatid Cyst Presents With Acute Visual Loss? Case Report and Literature Review

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ABSTRACT:

Hydatid cyst (HC) disease is zoonotic disease caused by larvae of *Echinococcus granulosus* which is commonly affecting liver and lung or any organ or tissue in our body. Central nervous system (CNS) can be involved at any place with or without brain involvement including skull, orbit, vertebral column and spinal cord. Orbital infestation is constituting less than 1% of all hydatid disease cases. There are few reported cases of orbital HC in the literatures that presented with acute visual loss and proptosis. In this article we are reporting a case of intramuscular orbital HC that presented with severe and acute visual loss with proptosis following trivial road traffic accident.

KEY WORD: hydatid cyst -orbit

INTRODUCTION:

A 60 years old Iraqi multipara menopausal woman presented to emergency unit EU with severe left orbital pain, swelling and visual loss that evolved over 6 hours associated with nausea without any change in sensorium. She was previously healthy without significant medical problem apart of mild left orbital swelling which is noticed by the patient and family over last 2 years; she considered that a normal phenomenon to aging without seeking real medical advice for that; 2 days ago she sustained mild head trauma due to simple road traffic accident when she was sitting in middle of backseats of minibus car; thereafter, she developed mild headache with increasing left orbital swelling and severe visual impairment over few hours.

On examination; she is alert, looking ill in pain with left proptosis, with normal speech and gait. Medical examination was unremarkable. Neurological examination; there was normal

cognitive function, cranial nerve examination showed severe left proptosis with total left ophthalmoplegia and left optic disc was showing severe pallor by fundoscopic examination with decrease in vision to level of light perception in left eye with normal visual acuity in the right. Upper and lower limbs examination were normal.

After initial supportive treatment investigation is done. CT-scan orbit revealed clear cystic left orbital lesion consistent with hydatid cyst. Magnetic resonance imaging revealed a well defined cyst measuring 25 x 25 x 30 mm located medial to the left orbit as shown in figure 1, the cyst appeared as a low – intensity signal on T1 weighted images and as a high intensity signal on T2 weighted images, after an intra – venous injection of Gd – diethylenetriamine penta-acentric acid, the lesion exhibited capsular contrast enhancement on T1 weighted images. Her CXR and U/S of abdomen were normal.

Surgery done and operative finding showed that the cyst is located lateral to the left eye ball intramuscularly (left lateral rectus). Albendazole was given for 2 months to prevent recurrence post operatively, histopathological report confirm hydatid cyst disease as shown in figure 2.

DISCUSSION:

Hydatid cyst disease in human is caused by tape worm *Echinococcus granulosus*, and larval stage of it known as hydatid cyst⁽¹⁾. Hydatid disease is prevalent in South America, Australia, the Middle East and Mediterranean countries⁽²⁾. *E. granulosus* are most commonly seen in liver and lung, it may also involve almost any organ or tissue in our body via the portal and systemic circulation⁽³⁾. Hydatidosis may affect CNS at any place with or without brain involvement including skull, orbit, vertebral column and spinal cord. Orbital infestation is constituting less than 1% of all hydatid disease cases^(4,5).

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ORBITAL HYDATID CYST

Sverdllick Claims to be the first to diagnose clinically intra ocular hydatid cyst ⁶. Infection is acquired in childhood , the cyst tend to grow in size over a period of years and the disease is not usually diagnosed before adult life⁽⁷⁾ .

Holland H. reported a hydatid of the orbit ⁽⁸⁾. Handousa A. reported proptosis caused by hydatid disease ⁽⁹⁾, Manzar reported two cases ⁽¹⁰⁾, Rapaport ⁽⁵⁾, Tenjum ⁽¹¹⁾, Huilgol ⁽⁴⁾, Roy and Banerjee ¹² were reporting one case , Baghdassarian S. et al reported three cases of hydatid cyst of the orbit ⁽¹³⁾, Talib H. reported first orbital hydatid disease case in Iraq ⁽¹⁴⁾, Sekkat A et al reported intraocular hydatid cyst ⁽¹⁵⁾, Sevel D reported 11 cases of hydatid cyst of orbit ⁽¹⁶⁾, Shukla M. et al reported unilateral hydatid cyst of the orbit ⁽¹⁷⁾, Bourdiol A. et al reported hydatid cyst of the orbit ⁽¹⁸⁾, Sinav, S. et. al. reported a primary intraocular hydatid cyst ⁽¹⁹⁾, Ozek M. et al reported the spontaneous rupture of an intra orbital hydatid cyst ⁽²⁰⁾, Nahri reported a simplified technique for removal of orbital hydatid cyst ⁽²¹⁾. Pillai et al reported hydatid cyst of orbit producing proptosis ⁽²²⁾. Alparslan et al reported of two cases of unilateral proptosis due to orbital hydatid cyst ⁽²³⁾. Valery Diatchuk et al reported orbital hydatid cyst manifested as expanding exophthalmia following blunt orbital trauma ⁽²⁴⁾. Fountas, Kostas N. reported two cases of orbital hydatid cyst in childhood ⁽²⁵⁾. Raju Sharma et al reported two cases of unilateral proptosis due to orbital hydatid cyst with its sonographic and CT appearance ⁽²⁶⁾. Y Jebilaoui et al reported one case of orbital hydatid cyst left side caused exophthalmia ⁽²⁷⁾. Mohammed Etaiwi et al reported one case of intramuscular hydatid cyst of the superior rectus muscle in Jordan ⁽²⁸⁾.

Although treatment with Albendazole is given as medical treatment before and after surgery ;but surgery remain primary treatment in the hydatid cyst of the orbit ⁽²⁹⁾. Nahri et al reported a simplified technique where as Ahmet Selcuklu et al reported the successful surgical management of an intraorbital hydatid cyst through a trans-maxillary approach .

Orbital hydatidosis represents a quite rare clinicopathologic entity ⁽³⁰⁾, Orbital Echinococcus cyst are significantly more common in children ^(31,32); however, cases of elderly patients with isolated primary orbital cyst have been reported ⁽³³⁾, its incidence varies from 0.8 to 1 % of all hydatid disease cases ⁽³⁴⁾, orbital hydatid cyst are solitary lesions in the vast majority of cases ⁽³⁰⁾.

The most commonly presenting clinical symptoms and signs of orbital Echinococcus are non pulsatile, non tender exophthalmoses, visual disturbances, papilloedema, diplopia, chemosis, eye lid edema, conjunctivitis and hypopyon ^(35,36)

In this paper we are reporting an orbital hydatid cyst that presents with visual loss and acute proptosis similar to that reported by Valery Diatchuks et al ⁽²⁴⁾, that can be explained on basis of rapid and sever expansion of the cyst secondary to the preceding trauma with subsequent sever optic nerve ischemia, further more this is unlikely to be an ruptured H. cyst because clinically, the presentation was not sudden but rapid and operative finding revealed totally excised cyst without rupture. orbital hydatid cyst are almost invariably situated in the upper lateral and upper medial angles of the orbit, either within or outside the muscle cone ⁽²⁸⁾, our case the cyst situated in super lateral angles of the orbit intramuscularly.

Figures mentioned in the case.

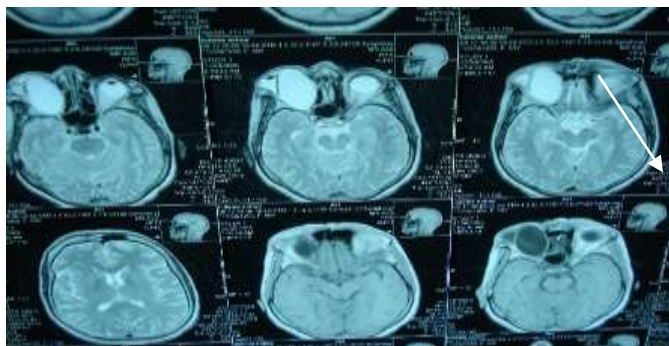


Figure 1: MRI brain and orbit shows in T1 weighted image a low intensity signal and as a high intensity signal on T2 weighted images (arrows) in left orbit which is typically seen in hydatid cyst.



Figure 2: Histopathological changes confirming hydatid cyst disease.

CONCLUSION :

Orbital hydatid is a rare cause of proptosis and very rarely presented with acute visual loss , early diagnosis and treatment will prevent such devastating complication.

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