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Orbital hydatid cyst: assessment of two cases

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Summary. Two cases of unilateral proptosis due to orbital hydatid disease are reported. In both cases CT scans showed well-defined, thin-walled cystic masses whose densitometric values were similar to that of the globe.

Key words: Hydatid disease – Orbita – CT

Hydatid disease is a rare cause of proptosis even in the densely endemic countries. Isolated reports of orbital hydatid disease have been recorded from different areas of the world where hydatid disease is prevalent. Most cases have been reported in the ophthalmological literature [1–6] but there is a good description of the radiological appearances by Hamza et al. [7]. We present two cases of orbital hydatid cysts with special reference to their CT findings.

Case 1

An 11-year-old boy was admitted to our hospital with a 5 month-history of painless proptosis associated with a decrease in vision of the left eye. Ocular motility was limited in all directions. Fundoscopic examination revealed blurred optic disc and engorged retinal veins. The general physical examination was unremarkable. The findings of laboratory tests were within normal limits except for positive Casoni skin test. X-ray of the chest and US examination of the abdomen revealed no abnormality.

CT scan showed a well-defined, thin-walled, 3.5 cm – diameter unilocular cyst occupying the supero-medial aspect of the orbit, causing remodelling of the lamina papyracea and erosion of the orbital roof. The globe was displaced downward and laterally. The center of the cystic mass had a mean density of 9 HU and a fine rim enhancement was seen after contrast injection (Fig. 1 a, b).

A left orbitomy was performed through an intracranial approach. A unilocular cyst which was located in the upper nasal quadrant was removed completely. The pathological diagnosis was hydatid cyst (Fig. 2). No other focus of infestation was found elsewhere. Six months following surgery visual acuity improved and there was no signs of recurrence.

Case 2

A 16-year-old girl entered the hospital with a three-month history of proptosis of the right eye. On admission, the general physical findings were entirely normal. The ocular examination revealed that the right globe was pushed forward and downward. Exophthalmometry showed a 5 mm difference between two eyes. There was minimal restriction of the ocular movement. Vision in the right eye was 3/6 and the right fundus appeared to be normal. Systemic laboratory investigations including Weinberg complement fixation and Casoni skin tests revealed no abnormality.

CT scan showed a well circumscribed, thin-walled cyst along the lateral wall of the orbit. Rim enhancement was seen after administration of IV contrast material (Fig. 3).

On exploration a unilocular cyst was found in the lateral aspect of the orbital cavity outside the muscle cone. It was adherent to the lateral rectus muscle. While dissecting it from surrounding tissues the cyst was ruptured. The fluid was aspirated and cyst wall excised. The histological diagnosis was hydatid cyst. No evidence of concurrent cyst was found elsewhere. 4 months following surgery the patient was asymptomatic.

Discussion

Hydatid disease in humans is due to an infestation by tapeworms of genus Echinoccus, most commonly E. granulosus. Only the larval stage, known as the hydatid cyst, de-

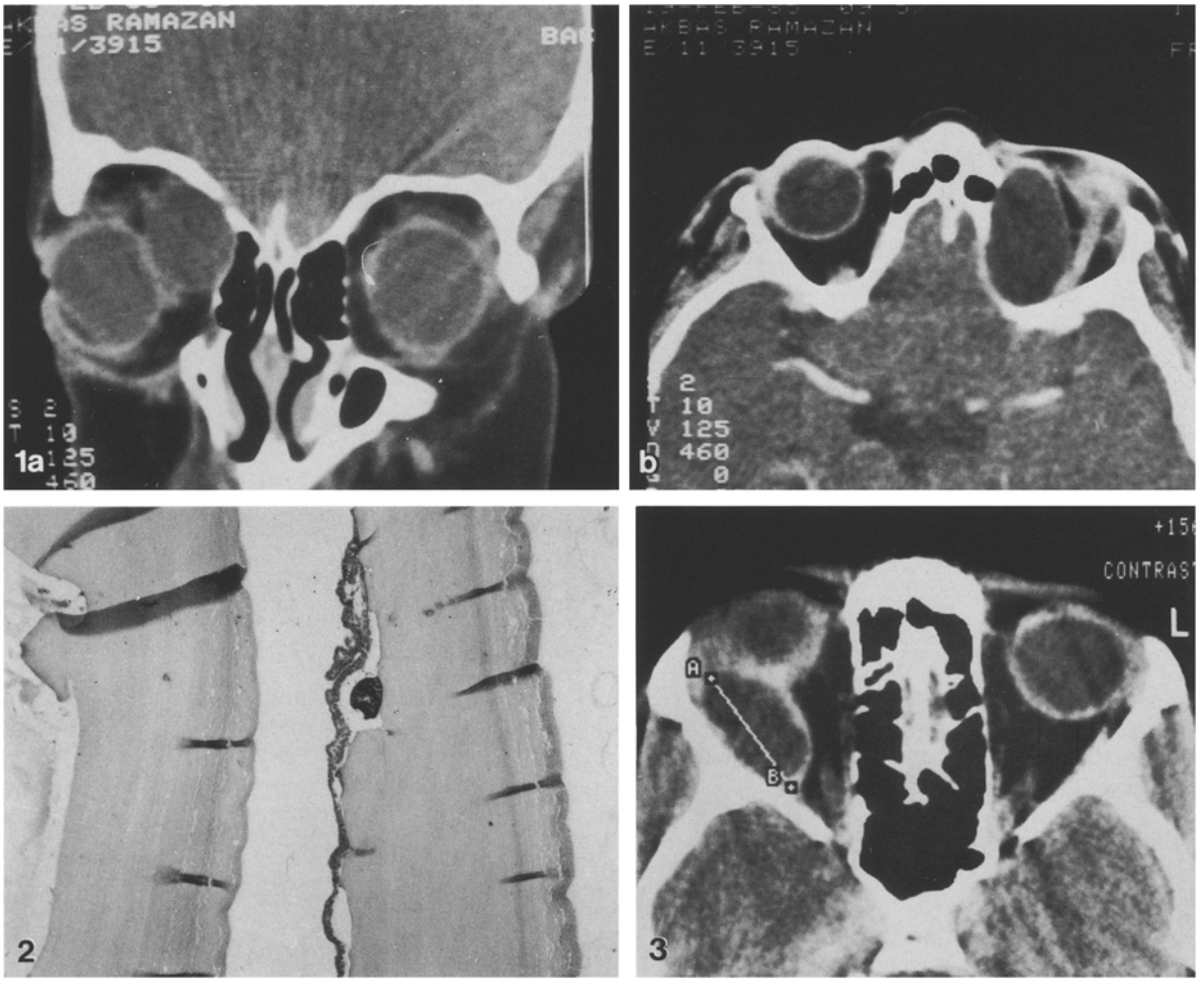

Fig. 1 a,b. Case 1: Coronal unenhanced scan shows a unilocular cyst in the supero-medial aspect of the left orbit producing lateral and inferior displacement of the globe (**a**). Axial postcontrast CT scan demonstrates a fine peripheral rim enhancement and erosion of the orbital roof (**b**)

Fig. 2. Case 1: Section through cyst wall demonstrates acellular hyaline membranes with a scolex inside (hematoxylin-eosin, × 80)

Fig. 3. Case 2: Axial CT scan shows a well-defined unilocular cyst along the lateral wall of the orbit

velops in humans. The organism is endemic in the Middle East, the Mediterranean countries, South America, Australia and New Zealand. It may involve almost every organ or tissue in the body via the portal and the systemic circulations. The orbit is among the uncommon sites of infestation. It has been stated that 1% of all hydatid cysts are localized in the orbit [9, 10].

Unilateral proptosis is the main feature of the disease. Other clinical findings include mechanical restriction of ocular movements and visual impairment. Eosinophilia occurs in only 20 to 25% of diagnosed cases and specific precipitin complement fixation tests and the Casoni intradermal test are unreliable, especially if the disease persists only in the orbit and is burned-out elsewhere [10].

From the literature and from our own observations the orbital hydatid cysts are almost invariably situated in the supero-lateral and supero-medial angles of the orbit lying in or about the muscle cone [1, 2]. Only two cases of inferiorly located cysts have been reported by Hondousa and Bagdassarian et al. [3, 4]. Because of their superior location, some may erode the orbital roof and become intracranial [8] as we observed in our first case, where the cyst was associated with bone erosion.

Orbital hydatid cysts appear well-defined, thin-walled and unilocular on CT, with densitometric values similar to the globe. Following contrast injection they show a fine peripheral rim enhancement in their fibrous capsule [5]. Although rim calcification has been described there was no calcification in our cases possibly because of their early presentation [1, 10].

The differential diagnosis should include chronic hematic orbital cyst, abscess, dermoid and epidermoid cysts and teratomas. Preoperative correct diagnosis is imperative for proper surgical management of orbital hydatid disease. Misdiagnosis may lead to serious consequences such as rupture of the cyst, resulting in an anaphylactic reaction or a spread of infection to neighbouring tissues.

Hydatid cyst is still prevalent in some countries and with increased travel isolated cases can be seen anywhere in the world. It is, therefore, suggested that hydatid cyst, although rare at this site, should be considered in differential diagnosis of intraorbital lesions which on CT appear as well-defined, thin-walled unilocular cystic masses.

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