

## CASE REPORT

## Unusual fundusoscopic manifestations of an ethmoidal mucocele

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The following case illustrates how an orbital tumour may mimic a posterior segment mass on funduscopy by virtue of its indentation of the globe. Imaging techniques are shown to be vital in the elucidation of the true pathology.

### Case report

A 30-year-old woman complained of severe throbbing pain in the right orbital region, associated with lacrimation and nausea, which had been intensifying over a 3 week period. She had not experienced diplopia or other visual disturbances.

She had no previous ophthalmic or medical history of note, had not suffered from sinusitis or

facial trauma, and was not using medication. On examination, the visual acuities were 6/9 right eye and 6/5 left eye and the pupil responses normal. She had a 4 mm non-axial proptosis, the right globe being deviated inferotemporally. Palpation of the orbital rim and regional lymph nodes showed no abnormality and percussion of the sinuses was not painful, extraocular movements were full and did not evoke diplopia. The globe was non-pulsatile with normal retropulsion and no vascular bruit. The anterior segment was congested, the anterior chamber quiet, and the intraocular pressures were 24 mm Hg right eye and 18 mm Hg left. On funduscopy, vertical choroidal folds involving the posterior pole were seen (Fig 1A). There was an apparent dark choroidal mass involving 5 clock hours of the extreme nasal periphery without overlying retinal detachment, haemorrhage, or vitritis (Fig 1B). No abnormalities were detected in the left eye or on general physical examination.

The clinical findings suggested a primarily ocular pathology with extrascleral involvement, such as posterior scleritis or a choroidal tumour with extrascleral spread.

Subsequent ultrasound investigation of the right orbit revealed an acoustically empty, extraocular mass of similar proportion to the eye, lying nasally in apposition to and indenting the globe (Fig 2A). Axial and coronal computed tomographic scans demonstrated a well circumscribed cyst, 2.5 cm in diameter, originating from the ethmoidal sinus (Fig 2B). On the basis of these examinations, an ethmoidal mucocele with orbital extension was diagnosed and trans-nasal endoscopic marsupialisation and drainage performed. Histopathological examination confirmed the diagnosis.

Two days postoperatively the patient was pain free, the visual acuity improving to 6/5 with resolution of the proptosis. The choroidal folds were diminished in number and the apparent pigmented mass had disappeared.

### Comment

Mucocele are cystic tumours which may erode through the bony sinus wall to reach the orbit or dura. Ethmoidal mucoceles may arise when facial trauma, surgery, sinusitis, or tumours obstruct the ducts which drain mucoid secretions, via the ethmoidal labyrinth, into the nasal cavity. Ophthalmic manifestations may include restrictive ophthalmoplegia, proptosis, and

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Accepted for publication  
7 July 1994

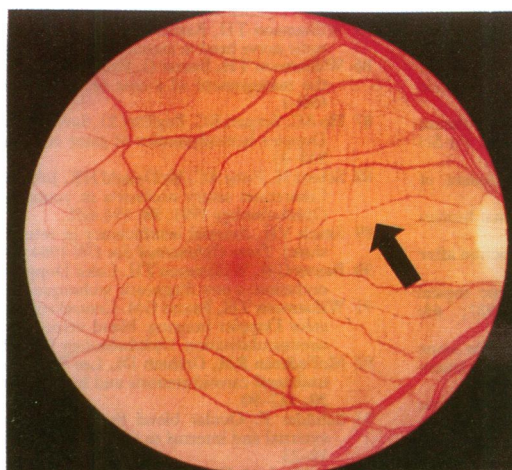


Fig 1A

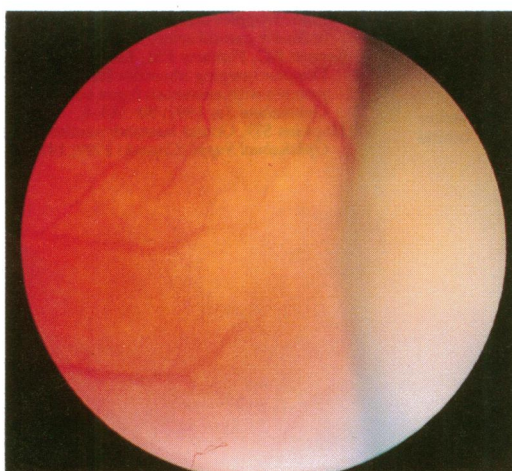


Fig 1B

Figure 1 (A) Vertical choroidal folds on funduscopy (indicated by arrow). (B) Dark fundal 'mass' in the extreme nasal periphery.

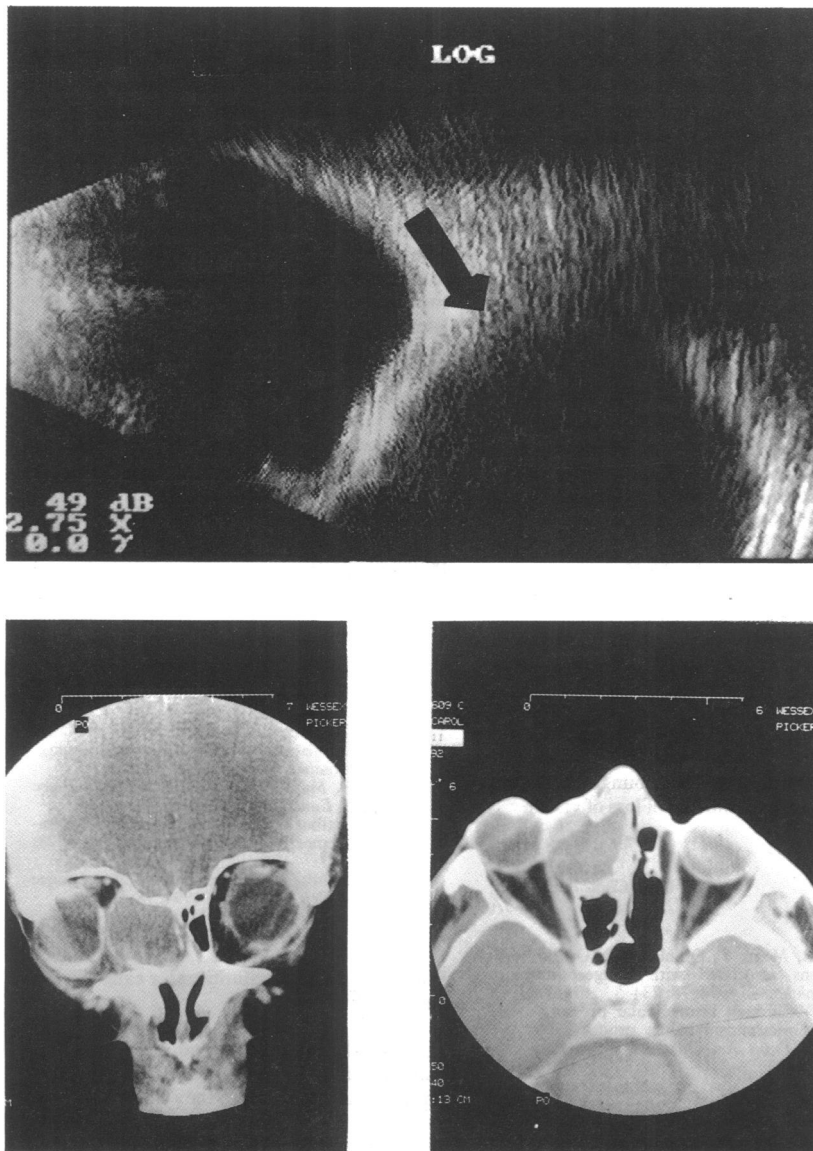


Fig 2B

Figure 2 (A) Ultrasound scan of the right orbit. The arrow indicating the position of the cystic tumour. (B) Coronal and axial computed tomographic scans of the orbit.

reduced visual acuity owing to optic nerve compression. Endoscopic marsupialisation of these mucoceles is now commonplace, offering a minimally invasive approach often performed under

local anaesthesia.<sup>1,2</sup> Most patients enjoy complete resolution of proptosis and visual acuity, the latter depending on the degree of optic nerve compression.<sup>1</sup>

This case illustrates many classic features of ethmoidal mucoceles but is unusual in several aspects. Severe orbital pain is unusual, its presence in conjunction with a cystic appearance on ultrasound suggesting other possible diagnoses such as a ruptured dermoid, aneurysmal bone cyst, haematic, or hydatid cyst. Usually patients with non-axial proptosis experience diplopia, its absence in this case being due to the increased fusional range or visual suppression afforded by the gradual onset of the proptosis. Vertical choroidal folds, while uncommon, have been previously described with orbital tumours anterior to the equator and represent stress lines produced by the deformation of the globe,<sup>3</sup> exaggerated by the engorgement of the chorio-capillaris resulting from vascular compression.<sup>4</sup> Choroidal folds at the posterior pole may, therefore, either result directly from intraconal pathology or be a false localising sign of globe compression by a distant, anterior tumour. Although choroidal folds have been reported as manifestations of globe indentation by ethmoidal mucoceles, the scleral impression of the tumour, recognised as a convex area on funduscopy, has not been previously described, although it is an acknowledged sign of other, more dense masses. A clinical feature of globe indentation by such extraocular masses, which allows differentiation from intraocular pathology, is the mobility of the indented area with eye movement, its dark appearance in this case may have resulted from localised venous stasis or by altered reflection characteristics of the involved choroid.

The authors would like to thank Dr Peter Cook, FRCR, for providing and interpreting the radiographs included in this report.

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