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Eye (2007) **21,** 667–668. doi:10.1038/sj.eye.6702662; published online 1 Dcember 2006

Sir,

Angle-closure caused by an anterior segment membrane

The differential diagnosis of the causes of angle-closure glaucoma may be difficult in eyes with complicated anterior segments. Accurate diagnosis, followed by prompt and effective treatment, is essential to successful management.

We report a case of progressive anterior chamber (AC) shallowing after combined phacoemulsification with posterior chamber intraocular lens (PCIOL) and tube-shunt implantation. Based upon the ultrasound biomicroscopy findings, creation of a patent laser iridotomy deepened the AC and allowed incisional surgery to be avoided.

Case report

A 65-year-old woman with Axenfeld–Rieger syndrome and two failed trabeculectomies was referred for evaluation of progressive anterior chamber (AC) shallowing after combined phacoemulsification (posterior chamber intraocular lens (PCIOL)), and tube-shunt implantation. Her best-corrected visual acuity was 6/9 and intraocular pressure was 11 mm Hg OU. Slit-lamp biomicroscopy revealed scarred conjunctiva, band keratopathy, shallow AC, unobstructed tube tip, vitreous prolapse, and two surgical iridectomies that transilluminated. B-scan examination of the posterior pole was unremarkable. A translucent membrane with anterior bowing was present on the PCIOL surface (Figure 1a).

Ultrasound biomicroscopy (P40 UBM, Paradigm Medical Industries, Salt Lake City, UT, USA), performed with the patient supine using an immersion technique and a 50-MHz transducer, revealed a shallow AC, a thin membrane with an anterior convexity over the PCIOL, iridectomy obstructed by vitreous and a convex iris contour (Figures 2a, b and 3a), suggestive of pupillary block secondary to an occluded pupil and imperforate surgical iridectomies.

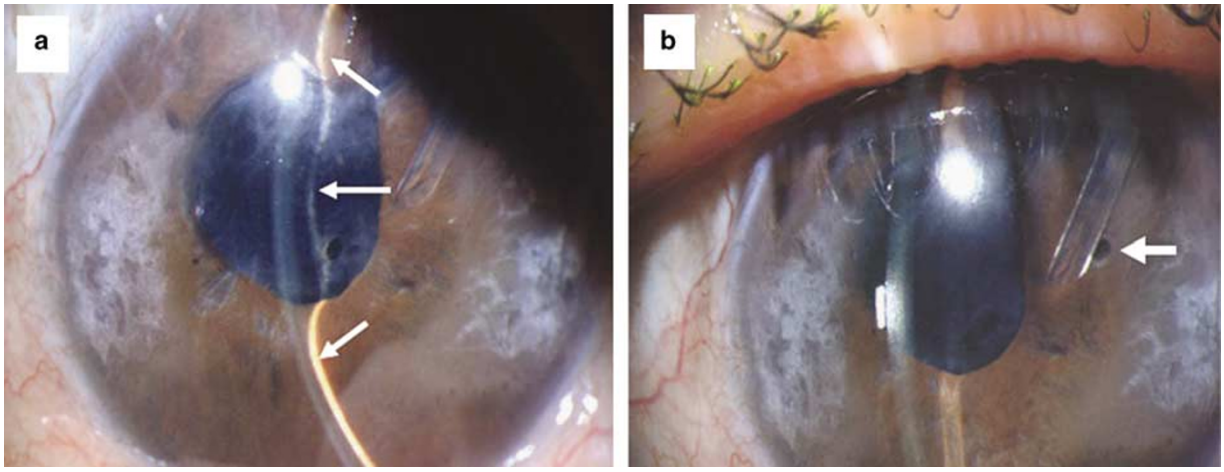

Figure 1 Anterior segment photographs of the left eye: (a) at presentation showing marked AC shallowing, extensive iris/cornea contact (oblique arrows) and bowed fibrin membrane over the PCIOL (horizontal arrow); (b) after argon laser iridotomy (horizontal arrow), showing a deep chamber and flattened iris and fibrin membrane contours.

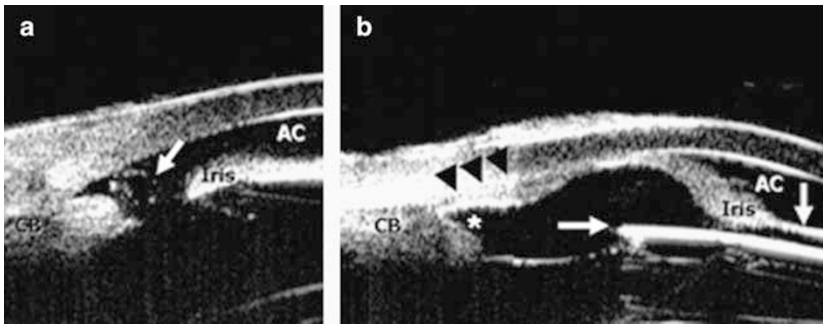

Figure 2 Ultrasound biomicroscopy images: (a) surgical iridectomy blocked by prolapsed vitreous (oblique arrow); (b) closed temporal iridocorneal angle (arrowheads), convex iris contour continuous with the fibrin membrane (vertical arrow) above the PCIOL (horizontal arrow), ciliary body (CB), and ciliary sulcus (asterisk).

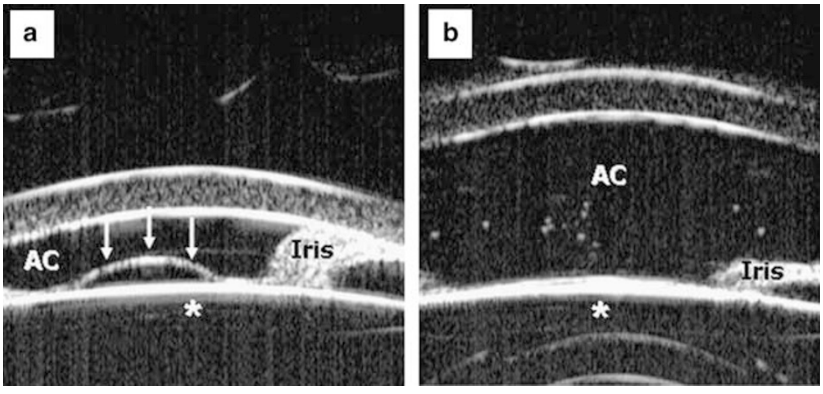

Figure 3 UBM images: (a) shallow AC with bowed fibrin membrane (arrows) above the PCIOL (asterisk), and convex iris before iridotomy; (b) deep AC, flattened membrane above the PCIOL (asterisk), and flat iris after iridotomy.

Argon laser iridotomy performed near the tip of the tube, which was the area of greatest distance between the iris and cornea (Figure 1b) resulted in immediate deepening of the AC, flattening of the iris contour, and flattening of the anteriorly bowed membrane over the PCIOL (Figures 1b and 3c).

Comment

Distinguishing aqueous misdirection from pupillary block at the slit-lamp may be impossible in some cases.[1,2] Malignant glaucoma was suggested by AC shallowing, the presence of two iridectomies and the marked forward displacement of the PCIOL.[2] The UBM findings of prolapsed vitreous obstructing the iridectomy (Figure 2a), wide ciliary sulcus, and convex iris contour (Figure 2b) were the clues to rule out the diagnosis of aqueous misdirection,[3] and confirmed the diagnosis of pupillary block angle-closure. Laser iridotomy allowed movement of aqueous into the AC and restoration of normal anterior segment architecture without the need for further incisional surgery in this already scarred eye.

Acknowledgements

Supported in part by the Joseph and Marilyn Rosen Research Fund of the New York Glaucoma Research Institute, New York, NY, USA.

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The authors have no proprietary interest in any material or device described in this paper

Eye (2007) **21,** 668–670. doi:10.1038/sj.eye.6702663; published online 24 November 2006

Sir,

Deciphering the code: does clinical coding accurately reflect peroperative cataract surgery complication rates?

In the modern National Health Service (NHS), performance outcome is increasingly being compared between surgical units. These quality indices exert a significant influence on the choice of providers offered to the patients by commissioners including patient care advisors in the primary care trusts. Cataract choice initiative gives patients a choice based on performance outcomes that include derived complication rates and waiting times.

One of the key indicators of the performance outcome in relation to cataract surgery is annual complication rates. These are determined currently by CHKS (CASP Healthcare Knowledge Systems, CASP-Clinical Accountability, Service Planning and evaluation), which is an independent national company that is paid by the NHS trusts to analyse the data based on the input by the current coding system. Coding has an established role in standardising the recording of clinical episodes for the purposes of healthcare planning and service delivery. The resulting analysis including complication rates is then forwarded to the Department of Health for subsequent dissemination. In addition, audit and clinical governence issues along with reimbursement via the Payment by Results mechanism in the future depend on the accuracy of coding.

The system of coding varies across different trusts within the NHS and Independent Sector Treatment Centres (ISTCs). In some hospitals, the operating surgeon performs coding via the electronic patient record system. However, more frequently in NHS hospitals, nonmedical health informatics staff known as coders are delegated this task. Documents such as International Classification of Diseases (ICD-10)[1] and Office of Population Censuses and Surverys (OPCS-4)[2] along with coder's interpretation of operation notes written by the surgeons constitute the current coding system. ICD-10 document has the codes for the diagnoses and OPCS-4 for the surgical procedures performed within all surgical specialties. These documents were published in the early 1990s.

In this study, we assess the accuracy of the current system of coding of per-operative cataract surgery complications based on the guidelines from the Royal College of Ophthalmologists.

A retrospective case note study of 85 consecutive complications that occurred from January 2004 to January 2005, as coded by the current system, was performed. Five patients operated on in a different hospital as a part of waiting list initiative were excluded. The remaining 80 patients were included in the study.

Two masked observers (ophthalmologists with experience of cataract surgery) coded the complications following the detailed standard format issued in the Royal College guidelines.[3] The resultant data generated by the two systems were then compared. The positive predictive value of current system (using coders) is estimated against the data generated by the ophthalmologists. The difference in the calculation of complication rates is then highlighted.

The results highlighted significant inaccuracy. The patients were divided into two categories. Forty out of eighty patients did not have any complication (Group 1). These included patients who had planned vitrectomy with phacoemulsification for retinal surgery, lens extraction as a part of penetrating eye injury repairs with vitreous loss, etc. Out of the remaining 40 cases (Group 2), only 15/40 (38%) were found to be accurately coded, that is 'complication occurred as described by the coders'. Twenty-five out of forty (62%) were miscoded and subdivided into (Group 2a) 'miscoded due to inaccurate interpretation of operating notes' in 11/25 (44%) and (Group 2b) 'miscoded due to unavailability of suitable codes' in 14/25 (56%). Inaccurate interpretation occurred because of lack of knowledge and understanding, and lack of communication between the coder and the surgeons. The positive predictive value of accuracy of the current