reported.⁸ In one of these reported patients, who were positive for both ANA and HLA-B27, hypopyon had been described in association with the recurrent episodes of AAU that developed during adulthood. The hypopyon described in that case occurred in the context of HLA-B27 associated AAU in an adult, distinct from and temporally following, clinical features of childhood ANA positive CAU.⁸ In contrast, our reported patient developed recurrent spontaneous hypopyon (at the age of 5) in the context of the typical, insidious CAU without any clinical features of HLA-B27 associated AAU.

It remains unclear whether the presence of HLA-B27 antigen in our patient is a coincidence or whether it is of pathogenic significance. HLA-B27 antigen may represent a risk factor for the development of hypopyon in anterior uveitis, even in those that do not display the typical phenotype of HLA-B27 associated AAU. It would be of interest to follow the clinical course of our patient into her adulthood to determine whether she later develops ocular or systemic features of HLA-B27 associated AAU. Further studies of a cohort of ANA and HLA-B27 positive children with uveitis are indicated to investigate their clinical phenotype and the potential interaction between ANA and HLA-B27.

J H Chang, P J McCluskey

Department of Ophthalmology, St Vincent's Hospital, Sydney, and Laboratory of Ocular Immunology, School of Medical Sciences, University of NSW, Sydney, Australia

J R Grigg

Department of Ophthalmology, Sydney Eye Hospital, Sydney, and Children's Hospital at Westmead, Sydney, Australia

Correspondence to: Dr John H Chang, Department of Ophthalmology, St Vincent's Clinic, 1004/438 Victoria Street, Darlinghurst, NSW 2010, Australia; jhchang@optusnet.com.au

doi: 10.1136/bjo.2006.096313

Accepted for publication 18 April 2006

References

- 1 Kanski JJ. Juvenile arthritis and uveitis. *Surv Ophthalmol* 1990;**34**:253-67.
- 2 Kotaniemi K, Savolainen A, Karma A, et al. Recent advances in uveitis of juvenile idiopathic arthritis. *Surv Ophthalmol* 2003;**48**:489-502.
- 3 Chang JH, McCluskey PJ, Wakefield D. Acute anterior uveitis and HLA-B27. *Surv Ophthalmol* 2005;**50**:364-88.
- 4 D'Alessandro LP, Forster DJ, Rao NA. Anterior uveitis and hypopyon. *Am J Ophthalmol* 1991;**112**:317-21.
- 5 Ramsay A, Lightman S. Hypopyon uveitis. *Surv Ophthalmol* 2001;**46**:1-18.
- 6 Kanski JJ. Anterior uveitis in juvenile rheumatoid arthritis. *Arch Ophthalmol* 1977;**95**:1794-7.
- 7 Huhtinen M, Karma A. HLA-B27 typing in the categorisation of uveitis in a HLA-B27 rich population. *Br J Ophthalmol* 2000;**84**:413-16.
- 8 Bosch-Driessen EH, Lardy NM, Roilova A. Antinuclear antibody and HLA-B27 positive uveitis: combination of two diseases? *Br J Ophthalmol* 1997;**81**:771-3.

A simple model for teaching indirect ophthalmoscopy

Indirect ophthalmoscopy is a useful technique to allow a wide angle view of the fundus, to screen for retinal disease, and to examine the peripheral retina. It provides a better view of the fundus in patients with lens opacities

Figure 1 Model for practising indirect ophthalmoscopy.

than is allowed by direct ophthalmoscopy. As the threshold at which cataracts are operated in developing countries is changing we have found it important that junior doctors and other eye health workers who select cataract patients for operation can use the instrument.

We use a simple model to teach the technique of indirect ophthalmoscopy. An hour or two with this model gets the beginner "over the hump" of learning how to position and move the light and lens. When the first real patient is examined, the learner can immediately concentrate on the fundus, minimising frustration and time spent shining an annoying light into a patient's eye.

The model is shown in the figure 1. The "eyeball" is a clear glass marble, set into anything that will keep it from rolling, such as a small bottle cap or a hole made in a piece of Styrofoam. Behind the marble, moulded around it, a piece of paper is placed with the smallest print available—the package inserts from prescription medicines work well. Finally, a hole is punched in a scrap of paper to use as a pupil. The optics of the system are excellent for practising indirect ophthalmoscopy and the student can be tested by how many words, letters, or lines he can see compared to the instructor.

Other models have been described before, which are more sophisticated or allow for scleral indentation but the materials may be hard to obtain.¹⁻³ A model equally simple to make as that described here has been proposed⁴; it does not require a glass marble and is good for helping the beginner get oriented, but the marble model provides more of a challenge at learning to view the retina outside the posterior pole.

Correspondence to: Susan Lewallen, Kilimanjaro Centre for community Ophthalmology, Tumaini University/ KCMC, Moshi, Tanzania; slewallen@kcco.net

Thanks to Dr Paul Meyer, Addenbrookes Hospital, Cambridge, UK, for this idea.

doi: 10.1136/bjo.2006.096784

Accepted for publication 15 May 2006

References

- 1 Dodaro NR, Maxwell DP. An eye for an eye. A simplified model for teaching. *Arch Ophthalmol* 1995;**113**:824-6.
- 2 Chew D, Gray RH. A model eye to practice indentation during indirect ophthalmoscopy. *Eye* 1993;**7**:599-600.
- 3 Bartner H, Paton D. An improved model for instruction in binocular indirect ophthalmoscopy. *Arch Ophthalmol* 1971;**85**:530-3.
- 4 Ing EB, Ing TGE. A method of teaching indirect ophthalmoscopy to beginning residents. *Can J Ophthalmol* 1992;**27**:166-7.

In vivo measurement of opacified H60M intraocular lenses using Scheimpflug photography

The Scheimpflug videophotographic camera is a modified slit lamp camera that uses a narrow slit beam and Scheimpflug optics to increase apparent depth of field (enabling simultaneous focusing of the entire anterior segment). Area densitometry measurement of scattered light intensity gives a cross sectional image of the anterior segment. In 1995, Lasa *et al* demonstrated the use of Scheimpflug photography¹ to assess posterior capsular opacification (PCO). Subsequent studies have correlated the values obtained with visual acuity.^{2,3} The system is efficient and reliable for PCO evaluation with good intraobserver and interobserver reproducibility.^{4,5} This has been verified by comparison with histological findings.⁶ Delayed opacification of Hydroview (H60M) intraocular implant lenses (Bausch & Lomb, Rochester, New York, USA) has been reported.⁷ In our patient series we find this to give rise to progressive visual loss and symptoms of glare.

We demonstrate the use of Scheimpflug video-photography (Pentacam, Oculus) for assessment of three cases of opacified H60M intraocular lenses (IOLs). All had uncomplicated cataract surgery with insertion of Hydroview R hydrogel lenses.

Case 1

An 89 year old woman had a +21.50 dioptre IOL in January 2001, for nuclear sclerotic cataract giving Snellen visual acuity of 6/18.

Figure 1 Scheimpflug image of opacified H60M intraocular lenses (IOLs). The level of light scatter measured at the cornea/air interface can be compared to the level of light scatter on the IOL surface to give a subject controlled light scatter ratio. (A) Opacified IOL through undilated pupil, from case 1. (B) Opacified IOL from case 2. (C) Right opacified IOL from case 3. (D) Left PCO from case 3. (E) Left eye post-YAG capsulotomy from case 3. (F) Unopacified IOL.

Postoperative acuity improved to 6/9, until 3 years later, when PCO reduced Snellen acuity to 6/12 in both eyes. Bilateral YAG laser capsulotomy returned this to 6/9. Four years later her left Snellen acuity reduced to 6/12 with moderate IOL opacification. Scheimpflug imaging demonstrated opacification of the posterior IOL surface with a corneal:posterior aspect of IOL grey scale ratio of 29.0:29.0 (fig 1A).

Case 2

A 92 year old woman with 6/60 Snellen acuity received a +21.00 dioptre IOL in February 2001 improving her Snellen acuity to 6/9. Three years later she underwent YAG laser capsulotomy for PCO reducing her left Snellen acuity to 6/24, this then improved to 6/9. In December 2005, her left Snellen acuity was 6/12 because of multiple discrete small superficial IOL opacities. Scheimpflug videophotography, demonstrated a corneal:IOL grey scale ratio of 37.0:74.4 (fig 1B).

Case 3

An 83 year old man with bilateral nuclear sclerotic cataracts (Snellen 6/36 right and 6/18 left) underwent right (December 2001) then left (May 2001) phacoemulsification receiving Hydroview R (Bausch and Lomb H60M) lenses. Snellen acuity improved to 6/9 bilaterally. In April 2006 he returned with 6/12 Snellen acuity in both eyes because of marked left PCO and opacification of the right lens optic. Scheimpflug videophotography demonstrated right posterior IOL opacification with a corneal:IOL grey scale ratio of

30.9:26.7 (fig 1C). In the left eye the corneal:IOL grey scale ratio changed from 38.8:33.5 (fig 1D) to 34.8:5.5 (fig 1E) pre-YAG and post-YAG laser capsulotomy.

Scheimpflug imaging of another unopacified H60M lens gave a corneal:IOL grey scale ratio of 30.5:8.3 (fig 1F).

This rapid test (taking a few minutes per eye) is easily performed. It may be a useful screening tool for IOL surface opacification. These pilot data, from a small series suggest that Scheimpflug videophotography has potential for screening. The corneal:IOL grey scale ratio may provide an objective measure of opacification. Glare is a symptom reported by patients with lens opacification. Scheimpflug videophotography reflects the mechanism of glare, making it theoretically a suitable objective measure of lens opacification. A larger series is required to establish the clinical correlation of this finding with visual function (acuity, contrast sensitivity, and slit lamp biomicroscopy) and to assess its reproducibility. The Scheimpflug system demonstrated has the potential to provide an efficient reproducible objective assessment of opacified lenses.

Acknowledgements

This research is unfunded at present. Eric Mayer is in receipt of a Department of Health NCC RCD Career Scientist Award.

A H Ross, M V Mundasad, S M Neilson,
E J Mayer, J M Sparrow, A D Dick, D M Tole
University of Bristol, Bristol Eye Hospital, Lower
Maudlin Street, Bristol BS1 2LX, UK

Correspondence to: Eric Mayer, University of Bristol, Bristol Eye Hospital, Lower Maudlin Street, Bristol BS1 2LX, UK; e.mayer@Bristol.ac.uk

doi: 10.1136/bjo.2006.097154

Accepted for publication 13 May 2006

References

- 1 Lasa MS, Datiles MB 3rd, Magno BV, et al. cheimpflug photography and postcataract surgery posterior capsule opacification. *Ophthalmic Surg* 1995;26:110-13.
- 2 Hayashi K, Hayashi H, Nakao F, et al. In vivo quantitative measurement of posterior capsule opacification after extracapsular cataract surgery. *Am J Ophthalmol* 1998;125:837-43.
- 3 Friedman DS, Duncan DD, Munoz B, et al. Digital image capture and automated analysis of posterior capsular opacification. *Invest Ophthalmol Vis Sci* 1999;40:1715-26.
- 4 Hayashi H, Hayashi K, Nakao F, et al. Quantitative comparison of posterior capsule opacification after polymethylmethacrylate, silicone, and soft acrylic intraocular lens implantation. *Arch Ophthalmol* 1998;116:1579-82.
- 5 Hayashi K, Hayashi H, Nakao F, et al. Reproducibility of posterior capsule opacification measurement using Scheimpflug videophotography. *J Cataract Refract Surg* 1998;24:1632-5.
- 6 Saika S, Miyamoto T, Ishida I, et al. Comparison of Scheimpflug images of posterior capsule opacification and histological findings in rabbits and humans. *J Cataract Refract Surg* 2001;27:1088-92.
- 7 Apple DJ, Werner I, Escobar-Gomez, et al. Deposits on the optical surfaces of Hydroview intraocular lenses. *J Cataract Refract Surg* 2000;26:796-7.

Neodymium:YAG laser treatment for a premacular haemorrhage in a T cell lymphoblastic lymphoma patient

T cell lymphoblastic lymphoma is a high grade non-Hodgkin's lymphoma commonly found in children and characterised by haematological abnormalities such as anaemia, leucopenia, and thrombocytopenia.¹ Although rare, ocular manifestations may result in intraretinal, preretinal, and premacular haemorrhages. Similar to other conditions such as proliferative diabetic retinopathy, Valsalva retinopathy, and retinal macroaneurysms, a premacular haemorrhage may develop, acutely decreasing vision and take several months to spontaneously reabsorb. We report a patient with T cell lymphoblastic lymphoma and a large premacular haemorrhage treated effectively with a neodymium:YAG laser.

Case report

A 21 year old man with a history of stage IV T cell lymphoblastic lymphoma previously treated with chemotherapy consisting of ifosfamide, etoposide, and cytarabine presented with a 1 week history of decreased vision in both eyes. Visual acuity was initially counting fingers at 3 feet in the right eye and 20/200 in the left eye. His pupils were equal and reactive, with no afferent pupillary defect. Anterior examination was normal while dilated funduscopy examination revealed diffuse intraretinal haemorrhages in both eyes with a large premacular haemorrhage in the right eye (fig 1A) and a smaller one in the left eye. Laboratory values measured his white blood count at $8100 \times 10^6/l$ with 89%