Willes found that when 20 to 30 drops of povidone iodine solution (instead of the one or two drops that we recommended) were placed in the conjunctival sac before surgery, there was no clinically significant effect on corneal thickness or endothelial cell count when compared with a control.

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- 1 Hughes DS, Hill RJ. Infectious endophthalmitis after cataract surgery. Br J Ophthalmol 1994; 78:
- Saggers BA, Stewart GT. Polyvinyl-pyrrolidone-iodine: an assessment of antibacterial activity.
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  Apt L, Isenberg S, Yoshimori R, Paez JH. Chemical preparation of the eye in ophthalmic surgery. III. Effect of povidone-iodine on the conjunctiva. Arch Ophthalmol 1984; 102: 728-9.
- 4 Isenberg S, Apt L, Yoshimori R. Chemical pre-paration of the eye in ophthalmic surgery. I: Effect of conjunctival irrigation. Arch Ophthalmol 1983; **101:** 761–3.
- 5 Wille H. Assessment of possible toxic effects of polyvinylpyrrolidone-iodine upon the human eye in conjunction with cataract extraction. An endothelial specular microscope study. Acta Ophthalmol 1982; 60: 955-60.

### Reply

EDITOR, - We thank Apt and Isenberg for their comments regarding our paper.1

We are in agreement that 5% povidone iodine solution is a potent antimicrobial agent. In vitro, most bacteria are killed within 30 seconds to 1 minute.2 However, Saggers' work also showed that at very high bacterial concentrations, several strains remained alive at 5 minutes and that the presence of organic material delays the rapid bactericidal effect.2 While 5% povidone iodine solution significantly reduces the conjunctival bacterial population,34 it does not completely disinfect the conjunctiva. Therefore, it is probably not as effective clinically as the in vitro studies suggest. To our knowledge no study has shown the optimum duration of contact of 5% povidone iodine solution with the eye. In practice, if instilled during the preoperative preparation, the solution will remain in contact with the conjunctiva for several minutes.

Regarding irrigation of the eye; while we agree the saline irrigation alone increases the number of bacterial species isolated from the perilimbal area,5 Boes's study did not find an increase in bacterial isolates after preparation with 5% povidone iodine solution combined with saline irrigation when compared with the use of 5% povidone iodine alone. We feel that a few drops of solution normally used to moisten the cornea is probably adequate to remove residual povidone iodine, but in view of Boes's work4 it should be safe to irrigate more if deemed necessary.

The risk of endothelial toxicity resulting from povidone iodine inadvertently entering the eye has been repeatedly quoted for many years. We were aware of Wille's paper' and had intended to qualify our statement on endothelial toxicity by adding that the risk remained theoretical rather than proved. We thank Apt and Isenberg for having pointed out this important omission.

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1 Hughes DS, Hill RJ, Infectious endophthalmitis after cataract surgery. Br J Ophthalmol 1994; 78:

- 2 Saggers BA, Stewart GT. Polyvinyl-pyrrolidoneiodine: an assessment of antibacterial activity. J Hyg 1964; 62: 509–18.
- J Hyg 1964; 62: 509-18.
  3 Apt L, Isenberg S, Yoshimori R, Paez JH. Chemical preparation of the eye in ophthalmic surgery, III: Effect of povidone-iodine on the conjunctiva. Arch Ophthalmol 1984; 102: 728-9.
  4 Boes DA, Linquist TD, Frische TR, Kaline RE. Effect of povidone-iodine chemical preparation and saline irrigation on the perilimbal flora. Ophthalmology 1992; 99: 156-74.
  5 Isenberg S, Apt L, Yoshimori R. Chemical preparation of the eye in ophthalmic surgery. I:
- paration of the eye in ophthalmic surgery. I: Effect of conjunctival irrigation. Arch Ophthalmol 1983; 101: 761-3.
- 6 Wille H. Assessment of possible toxic effects of polyvinyl-pyrrolidone-iodine upon the human eye in conjunction with cataract extraction. An endothelial specular microscope study. Ophthal-mology 1982; 60: 955-60.

#### Horner's syndrome and Fuchs' heterochromic uveitis

EDITOR, - Several reports of Fuchs' heterochromic uveitis (FHU) accompanying both congenital and acquired Horner's syndrome can be found in the literature.12 However these cases are scarce, and the association remains in question. A sympathetic aetiology for FHU is unproved, and to date no convincing evidence

We report a case in which FHU and Horner's syndrome co-exist.

A 69-year-old white man presented with blurred vision in the right eye of rapid onset over the past 4 months. He had no other ocular symptoms. Systemically he was well except for a history of hypertension and an episode of vertebrobasilar insufficiency 10 years ago. Sixteen years earlier he was noticed to have a partial ptosis with a smaller pupil on the right side, and diagnosed as having Horner's syndrome clinically which was then confirmed pharmacologically. On examination his visual acuity was right counting fingers, and left 6/5. On the right he had a 4 mm ptosis, diffuse stellate keratic precipitates on the corneal endothelium, plus flare and plus cells in the anterior chamber, 2 mm miosis compared with the left, heterochromia iridis with iris stroma atrophy but no transillumination defects, no iris nodules, absence of posterior synechiae, and a moderate posterior subcapsular cataract. He had normal intraocular pressure, normal discs, and full fields. Both pupils responded normally to light and accommodation. Cocaine hydrochloride 4% failed to dilate the right pupil but fully dilated the left; however, the right pupil fully dilated after instillation of 1% phenylephrine.

This is a further report of Horner's syndrome occurring in association with FHU. Few such documented cases exist. This case differs from previously reported cases in that the diagnosis of Horner's syndrome was made some 16 years before the diagnosis of FHU. In most of the previously reported cases the diagnosis of Horner's syndrome was made in retrospect. once the signs of FHU were already present. Some authors have felt that such a diagnosis may be difficult or inaccurate because of the iris and pupillary changes which can occur in FHU itself, and the pharmacological tests for Horner's also become unreliable.

Whether this case illustrated a genuine association between FHU and Horner's syndrome remains unresolved, and the debate as to whether FHU has a sympathetic aetiology or not will continue.

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- 1 Regenbogen LS, Naveh-Floman N. Glaucoma in Fuchs' heterochromic cyclitis associated with congenital Horner's syndrome. Br J Ophthalmol
- 2 Makley TA, Abbott K. Neurogenic heterochromia. Report of an interesting case. Am J Ophthalmol 1965; 59: 927-8.
- 3 Loewenfeld IE, Thompson S. Fuchs's hetero-chromic cyclitis. A critical review of the literature II. Etiology and mechanisms. Surv Ophthalmol 1973; 18: 2–61.
- 4 Jones NP. Fuchs' heterochromic uveitis: an update. Surv Ophthalmol 1993; 37: 253-72.

# **NOTICES**

#### **Keratoconus Self Help and Support** Association

For some time keratoconus patients at Moorfields Eve Hospital have met as a self help and support group. On 10 March 1994 this was formally constituted as the Keratoconus Self Help and Support Association. Mr Roger Buckley, MA, FRCS, FRCOphth, Director of Moorfields Contact Lens Department, accepted the Association's invitation to become its president. The Association aims to heighten awareness of keratoconus, its effects, and management, both within the medical and optical professions and generally. Funds are to be raised for publication of a pamphlet for this purpose. While the condition does not lead to blindness, for some the deterioration is such that a corneal transplant is the only option. Even then a contact lens may still be needed. There will be active support for research, regular meetings, and other activities including fundraising and a newsletter. Links are already being established with related societies and associations. Nor will the Association lose sight of its principal purpose, help and support for keratoconus sufferers. All keratoconus sufferers are welcome to join and associate membership is open to any interested non-sufferer. Further details: Mike Oliver (chairman), 39 Eversley Road, London SE7 7LF.

# Office of Continuing Medical Education

A course entitled '1995 Update in the Management of Age-Related Macular Degeneration' will be held on 21 January 1995 at the Thomas B Turner Building, Johns Hopkins Medical Institutions, Baltimore, Maryland, sponsored by The Wilmer Ophthalmological Institute of Johns Hopkins Medical Institutions. Further details: Program Coordinator, Johns Hopkins Medical Institutions, Office of Continuing Medical Education, 720 Rutland Turner 20, Baltimore, Avenue, 21205-2195, USA. (Tel: (410) 955-2959; Fax: (410) 955-0807.)

## **Photonics West '95**

The International Society for Optical Engineering (SPIE) will hold a conference entitled 'Photonics West '95' on 4-10 February 1995 at the San Jose Convention Center, San Jose, California, USA. This meeting consolidates three established California meetings, OE/ LASE, Biomedical Optics, and the IS&T/SPIE Symposium on Electronic Imaging Science and Technology. Further details: SPIE, PO Box 10, Bellingham, WA 98227-0010, USA. (Tel: 206/676-3290; Fax: 206/647-1445.)