experience with tetracycline has been less encouraging than theirs.

Only two patients from this study continue to attend an ophthalmologist. One had certainly used a bandage contact lens in the past but had subsequently undergone phototherapeutic keratectomy and was still symptomatic, although to a lesser degree. Bandage contact lenses certainly have a role in the management of recurrent erosions in patients who are sufficiently troubled by symptoms to seek medical advice—something that the vast majority of these patients were not doing.

PETER HEYWORTH
JOHN DART
Moorfields Eye Hospital, City Road, London EC1V 2PD

Topical ointment does not prevent recurrent symptoms following traumatic corneal abrasion

EDITOR,—We would like to expand on comments by Heyworth et al regarding the use of topical lubricating ointment for prophylaxis of symptoms of recurrent corneal erosion. The authors make the point that there are very few available data as to the prevalence of symptoms following traumatic corneal abrasion. We have addressed this specific issue in an ongoing prospective study. The study was designed to assess symptoms following uncomplicated traumatic corneal abrasion, and to assess the effect on symptoms of using a topical lubricant ointment. The project has the approval of our local research ethics committee.

All patients presenting with traumatic corneal abrasion in a previously healthy eye were treated with our standard regimen of cyclopentolate ointment 1% immediately and a bandage contact lens drops four times daily for 5 days; eye pads were not used. Injuries caused by a fingernail are felt to be at higher risk of progressing to recurrent corneal erosion, so the patients were randomised to one of two treatment groups. One group received our “standard regimen” alone, the other group continued with a “prophylactic regimen” of lubricating ointment (Lacrilube, Allergan) at night for 2 months. Patients were followed up after 3 months by telephone, using a symptom based questionnaire. Recurrent symptoms were graded as: (i) none or minimal, (ii) mild, (iii) moderate (difficulty with some daily activities, or sought further advice from a health professional), and (iv) severe (macrocorneal erosion). Case notes were reviewed at 2 years. Three year follow up, again by telephone questionnaire, is due to take place later this year.

Seventy four patients completed the 3 month follow up questionnaire (Table 1). Symptoms were considered to be due to recurrent corneal erosion if they were reported as frequent and significant pain, grittiness, photophobia, or watering of the injured eye only. A total of 21 patients (28%) reported such recurrent symptoms at 3 month follow up. We found no significant difference in symptom prevalence between “fingernail” and “non-fingernail” injuries which had been managed with our standard regimen (z-test: p = 0.54). Treatment of fingernail injuries with additional nightly ointment was associated with a higher prevalence of symptoms at 3 months (significant to z-test, p = 0.016).

Despite the high prevalence of symptoms in all groups at 3 months, only two patients had re-presented with macroform recurrent corneal erosion by 2 years. Both had been injured by a fingernail: one presented 3 months after treatment with our standard regimen, the other presented 7 months after a similar injury which was treated with additional nightly ointment. These early results suggest that nightly lubricating ointment does not prevent recurrent symptoms when used following uncomplicated traumatic corneal abrasion. Instead, the reverse appears to be true, in that the group receiving additional ointment had significantly more symptoms at 3 month follow up. We were surprised at the high prevalence of recurrent symptoms in all groups. These early results suggest that we should reconsider the place of both eyelid and ointment in our current management. Further studies of treatment for recurrent corneal abrasion or erosion should pay close attention to patient symptoms.

TOM EKE
DANNY MORRISON
DAVID J AUSTIN
Lancaster Royal Infirmary, NHS Trust
Correspondence to: Dr Danny Morrison, Department of Clinical Genetics, Molecular Medicine Centre, Western General Hospital, Edinburgh EH4 2XL

Table 1 Prevalence and severity of recurrent symptoms, 3 months after treatment for traumatic corneal abrasion. Symptoms were assumed to be due to recurrent corneal erosion if they were described as frequent and significant pain, grittiness, photophobia, or watering of the injured eye only.

<table>
<thead>
<tr>
<th>Cause of injury and treatment group</th>
<th>No symptoms (n=20)</th>
<th>Mild symptoms (non-disabling) (n=22)</th>
<th>Moderate symptoms (difficulty with daily activities, or sought further advice from a health professional) (n=20)</th>
<th>Severe symptoms (macrocorneal erosion) (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fingernail: standard regimen (see text)</td>
<td>17 (85%)</td>
<td>2 (10%)</td>
<td>0</td>
<td>1 (5%)</td>
</tr>
<tr>
<td>Fingernail: additional nightly ointment (see text)</td>
<td>11 (50%)</td>
<td>7 (32%)</td>
<td>4 (18%)</td>
<td>0</td>
</tr>
<tr>
<td>Other causes: standard regimen (n=32)</td>
<td>25 (78%)</td>
<td>3 (10%)</td>
<td>4 (12%)</td>
<td>0</td>
</tr>
</tbody>
</table>
Horner's syndrome in infancy

EDITOR,—Eke et al have addressed the issue of symptoms following an acute traumatic abrasion and demonstrate that 28% of patients were still symptomatic 3 months after the event. In our discussion we suggest that what is required is a study examining the symptomatology of patients with established recurrent erosion syndrome before deciding what treatment modalities would be appropriate. Eke et al's series represents a small group of patients (21) who are still symptomatic 3 months following an acute corneal abrasion, not long after the initial healing phase. This review does not represent the group of patients that we are interested in—namely, those who have recurrent erosions some time following the initial injury. When Eke's group report the results regarding symptomatology at 3 years (due later this year) this will better represent a group of patients with recurrent erosion syndrome albeit limited to a small subgroup of these patients with a traumatic aetiology and whose numbers may be considerably less than those reporting symptoms at 3 months.

PETER HEYWORTH
Adnexal Service, Moorfields Eye Hospital, City Road, London EC1V 2PD


Horner's syndrome in infancy

EDITOR,—George et al recently undertook a review of 23 cases of Horner's syndrome presenting in the first year of life. They remind us of the difficulty in differentiating between congenital and acquired Horner's syndrome in this age group. In their introduction they state that, in both congenital and acquired cases, “heterochromia may appear to be progressive as the child develops normal pigmentation in the fellow iris”. Iris heterochromia would therefore appear to be of little value in distinguishing between congenital and acquired cases, the latter potentially being the result of underlying pathological processes. The authors conclude with a management protocol for the investigation of Horner's syndrome in infancy—namely, a full general examination and urinary vanillylmandelic acid levels. However, their inclusion of the recommendation that further investigation is indicated if increasing iris heterochromia is noted would appear to be contradictory to their earlier statement. Iris pigmentation depends predominantly on the distribution of pigment within melanocytic cells on the anterior border and within the stroma. These cells migrate into the human iris late in gestation and postnatally, modulated by the sympathetic nervous system.1 In 1915, Symm noted that iris colour is not fully developed until the 12th to 16th month, an observation continued by Giles et al in 1958 who reported the development of normal iris pigmentation that what children up to 2 years of age. Thus, patients with Horner's syndrome, either congenital or acquired in the first year of life, might be noted to have progressive heterochromia as the fellow eye pigments. On this advice, both groups of children would be subject to further investigation which the authors are suggesting we should try to avoid.

In order to further clarify this excellent protocol, we would suggest the omission of progressive iris pigmentation among the list of signs meriting radiological investigation.

CAROLINE A CATES
P R HODGKINS
R J MORRIS
Department of Ophthalmology, Southampton General Hospital, Southampton SO16 6YD

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generated by Gaussian variables with one homogeneous random component common to all points in the region (SD 1.1 dB), and with an independent inhomogeneous variation (SD 0.9 dB) between points. All fields were assumed to be stable, with constant mean at all test occasions. We assumed three tests to be performed each year. With the criteria of Viswanathan et al., 60% of the simulated fields showed significant progression in at least one inner point and 29% showed progression in at least one outer point. This means that at least 72% showed false significance on at least one occasion. In fact, 55% of the simulated fields showed progression on two consecutive test occasions. If we had included the short term fluctuation, the number of false significances would have been even larger. This finding of 72% false significances is in agreement with our experience with the 10 glaucoma patients.

Viswanathan et al. must have been fooled by their own selection of progressing patients, and the use of remaining statistical significance at the last visit as a criterion for reliability is erroneous. It is not surprising that many points in subjectively progressing visual field tests show significant progression at the end of the follow up period, and this yields no information as to the specific progression curves.

It is generally and correctly considered, that because of the large random variability of glaucomatous visual fields, real progression can seldom be demonstrated in glaucomatous visual fields in only 1 year. In view of this we are quite satisfied that the mean time until progression was demonstrated with STAMPAC 2 was more than 2 years. In fact, we recommend stricter progression criteria for STAMPAC 2 than those used by the authors, again in the interest of specificity.

Linear regression analysis has advantages in visual field follow up, one is that all available data are used. Such analyses can be applied both properly and improperly. Analyses that lack specificity are only misleading, however, and may even result in improper clinical management, as a more thorough analysis of linear regression analyses for visual field follow up is needed, and we will address this subject in a future article.

ANDEARS HEIJL, BOEL BENGTSSON Department of Ophthalmology, Malmö, Sweden

GEORGI LINDGREN Department of Mathematical Statistics, University of Lund, Sweden

Reply

EDITOR,—We thank Heijl et al for their interest in our paper. Their letter raises a number of issues, all of which are worthy of discussion. Our paper was a continuation of previous work (ref 25 in our paper) comparing a new analysis program (PROGRESSOR) with the widely available visual field analysis program STAMPAC 2. In the earlier paper we showed that the two programs identified the same locations in the visual field as “progressing”. In this paper we showed that “progression” as we defined it occurred much earlier with PROGRESSOR than STAMPAC 2. As an uncorrected outcome of glaucoma management is (further) visual field loss, any approach looking for earlier detection of visual field loss seemed to have merit.

The paper was an attempt to identify some acceptable progression criteria for glaucoma. We believed that the criteria of Viswanathan et al. were too sensitive and did not take account of the random fluctuations common to both normally and abnormally functioning visual fields. We are satisfied that the mean time until progression was demonstrated with PROGRESSOR was more than 2 years. In fact, we recommend stricter progression criteria for PROGRESSOR than STAMPAC 2, 2 and would be interested to learn what these criteria are.

The STAMPAC 2 program has been widely available for some time with more sensitive criteria than STAMPAC 2, 2 and may even result in improper clinical management. A more thorough analysis of linear regression, particularly as they dismissed linear regression as “the best way to diagnostic catarsis” at the open glaucoma meeting of the ICO in 1990. We await their results with interest.

A C VISWANATHAN PW FITZKE R A HITCHINGS Department of Visual Science, Institute of Ophthalmology, University College London, 11–43 Bath Street, London EC1V 9EL

Topical steroids and alkali burns

EDITOR,—In their recent report attributing to the safety of topical prednisolone in the treatment of alkali burns, Davis and colleagues do not specify the type of prednisolone which was prescribed. Prednisolone acetate (Pred Forte) is absorbed into the human eye and reaches aqueous humour concentrations many times higher than prednisolone phosphate (Predsol) perhaps on account of an acetylation enzyme in the cornea. It is therefore important to know which form of prednisolone was employed in this study.

GORDON N DUTTON West Glasgow Hospitals, University NHS Trust, Western Infirmary, Glasgow G11 6NT


Re: vitamin C in the treatment of alkali burns. To our paper was to emphasise the safety of topical steroids, particularly prednisolone sodium phosphate ointment at a concentration of 0.1%, or betamethasone sodium phosphate 0.05%, or hydrocortisone acetate 1% either alone or in combination with a vitamin C preparation. You wrote: "Of those who had prednisolone drops, none had prednisolone forte eye drops. The aim of our paper was to emphasise the safety of topical steroids, particularly prednisolone sodium phosphate ointment at a concentration of 0.1%, or betamethasone sodium phosphate 0.05%, or hydrocortisone acetate 1% either alone or in combination with a vitamin C preparation."

I have rechecked our data and the paragraph would require a prospective study.

ALISON DAVIS
Eye Department, King's College Hospital, Denmark Hill, London SE5 9RS

IN MEMORIAM

Fred Hollows
Fred Hollows died on 10 February 1993 in the age of 63 years after a short and valiant battle with kidney, lung, and brain cancer. In his remarkable career he had quickly risen to being a major international figure in the world of ophthalmic surgery.

In the 1950s Fred Hollows decided as a young medical student to become an ophthalmologist because this would give him a useful skill to work in Africa. As a postgraduate ophthalmology student in Wales, Hollows studied epidemiology so that he could link eye doctoring with wide ranging community health programmes. In 1968 at Wattie Creek in northern Australia Hollows identified in an aboriginal community “dahlak blindness”, a hazy corneal condition first found in Eritrea. He began to lobby for funds and between the years 1976 and 1979 a “better vision for all” programme called the National Trachoma and Eye Health Programme treated the eyes of 100 732 people; 62 116 of these were indigenous Australians.

Eventually this led to series of eye health programmes in Eritrea, Nepal, and Vietnam, which have restored the sight of thousands, and to a struggle to lessen disparity in health and treatment between the “haves” and “have nots”.

When he went to Eritrea in 1988 during the height of the struggle for independence he taught the medical doctors in ophthalmological surgery. There were many patients with cataract who could not be treated in Eritrea at that time because of lack in experience and materials. Many of the patients came from Danakel (south eastern Eritrea), said to be the hottest place on the earth.

From 1990 to 1992 Professor Hollows gathered the necessary capital to build the intraocular lens factory in Asmara; such a factory has been put to the test before in Australia.

His dream came true: The Foundation of Fred Hollows was officially opened on 20 January 1994 in Asmara by the president of the state of Eritrea, I Afeworki, the Australian senator of foreign affairs, Gareth Evans, and Mrs Gahi Hollows with her children. This laboratory is an expression of his admiration, understanding, and love of the people of Eritrea and their struggle to achieve independence and self reliance. The factory produces an estimated 60 000 intraocular lenses per year; in Eritrea there are 30 000 cataract patients per year.

His desire to help and identify himself with the suffering of the people of Eritrea did not end with the eye programme. He undertook the task of finding a solution to the removal of the millions of landmines scattered in Eritrea and other countries.

Fred Hollows was no dry, dusty academic but had considerable style and joie de vivre. He maintained an active family life with his wife and their five young children.

Fred Hollows will remain for a long time in our hearts and memories. We share deepest sympathy with his family.

BINIAM GHEBREMEDHIN

AVOIDABLE BLINDNESS

The latest issue of the *Community Eye Health* (no 25) discusses the elimination of avoidable blindness. With an editorial by Bjorn Thyfors, the director of the WHO Programme for the Prevention of Blindness and Deafness, the issue covers treatment of cataract in regions of India and the role of patient counsellors in increasing the uptake of cataract surgery and IOLs. For further information please contact *Community Eye Health*, International Centre for Eye Health, Institute of Ophthalmology, 11–43 Bath Street, London EC1V 9EL. (Tel: (+44) 171 608 6910; fax: (+44) 171 250 3207; email: eyeresource@ucl.ac.uk) Annual subscription £25. Free to workers in developing countries.

RESIDENTS’ FOREIGN EXCHANGE PROGRAMME

Any resident interested in spending a period of up to one month in departments of ophthalmology in the Netherlands, Finland, Ireland, Germany, Denmark, France, Austria, or Portugal should apply to: Mr Robert Acheson, Secretary of the Foreign Exchange Committee, European Board of Ophthalmology, Institute of Ophthalmology, University College Dublin, 60 Eccles Street, Dublin 7, Ireland.

ORIENTAL EYE SYMPOSIUM

The XVI Tuebingen Detachment Course The XVI Tuebingen Detachment Course in retinal and vitreous surgery will be held 4–5 September 1998 in Odessa, Ukraine. Further details: Professor I M Logai, Director, The Filatov Institute, 49/51 Boulevard Francois, Odessa, 270061, Ukraine. (Tel: +38-0482-22 20 35; fax: +38-0482-68 48 51.)

INTERNATIONAL AGENCY FOR THE PREVENTION OF BLINDNESS (IAPB)

The International Agency for the Prevention of Blindness (IAPB) will hold its next general assembly in Beijing, China on 5–10 September 1998. Further details: Gallapalli N Rao, Secretary General, IAPB Secretariat, LV Prasad Eye Institute, LV Prasad Marg, Banjara Hills, Hyderabad 500 034, India. (Tel: 091-40-215389; fax: 091-40-248267; email: IAPB@lvpeye.stph.net)

XI TUEBINGEN ANGIOGRAPHY COURSE

The XI Tuebingen Angiography Course will be held 12 September 1998 at the auditorium university dental clinic, Tuebingen. Further details: Dr W Inhoven, University Eye Clinic Department of Ophthalmology III, Schleichstrasse 12, D-72076 Tuebingen, Germany. (Tel +49-(0) 7071-292968; fax +49-(0)-7071-293746; email: ingrid.kreissig@uni-tuebingen.de; http://www.medizin.uni-tuebingen.de/~webuagen/index.html)

ICOP 98

The next International Conference on Ophthalmic Photography (ICOP) will be held on 19–21 September 1998. Further details: Mrs Gillian Bennerson, Senior Ophthalmic Photographer, Bristol Eye Hospital, Lower Maudlin Street, Bristol BS1 2LX. (Tel: 0117-928-4677.)

IV MEETING OF THE EUROPEAN SOCIETY FOR OUT-PATIENT EYE SURGERY (ESOPES)

The IV meeting of the European Society for Out-Patient Eye Surgery (ESOPES) will be held in Vittel, France on 9–11 October 1998. Further details: Mrs Nicola Charson, Director, Palais des Congres, Av Bouluamie, BP 57, 8802 Vittel, France. (Tel: +33 329 08 18 30; fax: +33 329 08 6601.)

VTH INTERNATIONAL SYMPOSIUM ON GRAVES’ OPHTHALMOLOGY

The Vth International Symposium on Graves’ Ophthalmopathy will be held on 27–28 November 1998 in Amsterdam. Further details: Amsterdam Therapeutical Department of Endocrinology, F5-171, Academisch Medisch Centrum, Meibergdreef 9, 1105 AZ Amsterdam, Netherlands.

HONG KONG OPHTHALMOLOGICAL SYMPOSIUM 98

The Hong Kong Ophthalmological Symposium 98 on myopia will be held on 28–29 November 1998 at the Hong Kong Convention and Exhibition Centre. Further details: Dr Woon-ming Chan, Secretary, Organising Committee, Hong Kong Ophthalmological Symposium 98, University Eye Centre, 3/F, Hong Kong Eye Hospital, 147K Argyle Street, Kowloon. (Tel: (852) 2761 9128; fax: (852) 2715 0089; email: cohk@netnavigator.com)

SINGAPORE NATIONAL EYE CENTRE

The 3rd SNEC international meeting and 11th international meeting on cataract, implant, microsurgery and refractive keratoplasty (ICIMRK) will be held at the Shangri-La Hotel, Singapore on 28–30 November 1998. Further details: Organising Secretariat, 3rd SNEC International Meeting and 11th ICIMRK, Singapore National Eye Centre Pte Ltd, 11 Third Hospital Avenue, Singapore 168751. (Tel: (65) 2377-255; fax: (65) 2277-290/1)