

to have corneal ulceration and a hypopyon. Microbiological investigation was unproductive, and he was treated empirically with topical gentamicin 4 hourly, to which the infection responded, with full visual recovery.

The patient developed a further corneal abscess with a hypopyon in the same eye 5 years later whilst awaiting penetrating keratoplasty. *Pseudomonas* sp. and *Serratia* sp. were isolated. The infection responded to topical cefuroxime and gentamicin. The overlying epithelial defect persisted and has healed after botulinum toxin induced ptosis. He is awaiting penetrating keratoplasty to this eye.

#### Discussion

In corneal lattice dystrophy it has been shown that oligosaccharide markers for cell wall glycoprotein complexes are lost from the basal epithelium and are found extensively throughout the stroma of affected corneae.<sup>2</sup> This change is associated with less widespread deposition of amyloid, which may represent sequestered protein components from the same source and which is frequently concentrated between the epithelium and Bowman's layer.<sup>3</sup> Whilst some authors have postulated that the resulting irregularity of basement membrane complexes gives rise to poor epithelial stromal adhesion and in turn predisposes to corneal erosion, it is equally possible that the abnormal basal epithelial cell wall is incapable of maintaining structural integrity in the normal fashion and there may thus be another possible mechanism for epithelial instability in this disease.<sup>4</sup>

In consequence, patients with lattice dystrophy may be particularly susceptible to microbial keratitis as a result of repeated epithelial disturbances, and ophthalmologists should remain alert to the possibility of sight-threatening infective complications in this disease. Recurrent erosions in such patients deserve careful attention and therapy designed to reduce the risk of infective complications.

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Sir,

#### Administration of Eye Drops in the Community: The Best Use of a District Nurse's Time?

Eye drops are prescribed for acute and chronic medical conditions. Following cataract surgery topical steroids or non-steroidal anti-inflammatory agents<sup>1</sup> and, usually, antibiotics<sup>2</sup> are prescribed to prevent iritis and/or endophthalmitis. Consensus amongst ophthalmologists as to the optimum combination, frequency and duration of topical therapy following cataract surgery has not been established. The growth in numbers of cataract extractions,<sup>3</sup> increasingly performed as day case procedures,<sup>4</sup> will result in more patients using topical therapy at home. Many people have difficulty instilling eye drops;<sup>5</sup> therefore district nurses and informal carers have to perform this task for them. We surveyed how much district nurse time is spent instilling eye drops and which difficulties prevent self-administration.

#### Methods and Results

All 45 nursing practices, serving a population of 261 108, in the York health authority were surveyed by questionnaire on a week in which there had been no hospital holiday within 14 days. Completed replies were received from 35 (78%) practices. Questions included: how many patients were receiving eye drops from district nurses, how many visits were made in that week, how often the visit's sole purpose was to instil drops, how often carers were involved, what difficulties prevented self-administration and whether drops were needed following surgery.

Twenty-four patients were receiving eye drops from district nurses. Informal carers administered a proportion of drops to 17 of these patients, but for the remaining 7 subjects nurses administered all the drops. During the week of the survey 263 home visits were made by nurses of which 253 (96%) were solely to instil drops. Sixteen of the patients had recently undergone surgery (Table I).

The 24 patients had 47 separate difficulties preventing self-administration. Forty-three (91%) were physical problems; 18 were aiming the dropper inaccurately; 9 were blinking inappropriately; 7 had difficulty lifting the hand to eye; 7 had problems squeezing and 2 opening the bottle. Four patients suffered cognitive impairment.

**Table I.** Number of patients receiving eye drops and number of visits made

Total no. of patients receiving eye drops	No. of patients receiving eye drops following surgery	No. of patients receiving drops only from nurses	No. of patients receiving drops from nurses and carers	Total no. of nurse visits to instil eye drops	No. of visits where only reason was to instil eye drops
24	16	7	17	263	253

### Discussion

Though only 24 patients were receiving drops from district nurses, many home visits were undertaken. Assuming 20 minutes for a visit, including travelling time, these findings suggest that the equivalent of two nurses are employed full time to administer drops for the study population. If the number of requests for home visits to instil drops is similar for the practices not responding to the survey it is likely that the equivalent of three nurses are employed, at an annual cost of over £30 000 pounds (excluding transport and assuming a B grade nurse assistant), to instil eye drops.

The largest group of patients receiving eye drops from district nurses were those who had recently undergone eye surgery. Showing patients how to instil their eye drops and identifying people with difficulties is part of patient care in most ophthalmology departments. Though not all departments run teaching programmes, many requests for district nurses to instil drops come from eye units.

Several appliances are available to help instil drops. The 'Easidrop' and 'Autodrop' help with aiming and the 'Opticare' helps with both aiming and squeezing the bottle. Definitive studies of the effectiveness of aids in conjunction with a teaching programme have not been performed, but potentially aids should allow more patients to apply eye drops independently. Unlike devices to assist with inhalers, aids to help instil eye drops are not available on prescription, so cost to the patient may preclude their use even if they prove effective.

Using district nurses purely to instil drops is a questionable use of a scarce resource. Studies which ascertain the minimum effective topical therapy and its duration following surgery, how best to teach people to administer their eye drops, and which aid is most effective, could free district nurses to undertake other tasks.

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Sir,

**The Management of an Optic Nerve Compromising Acute Retrobulbar Haemorrhage: Report of a Case**  
Retrobulbar haemorrhage is rare and usually follows retrobulbar anaesthetic injection, periocular surgery or trauma, or very rarely it can be spontaneous. If untreated, in some instances, it can lead to irreversible loss of vision. We report a case of severe retrobulbar haemorrhage with optic nerve dysfunction following trauma that was successfully treated by a lateral canthotomy and inferior cantholysis.

### Case Report

A 29-year-old man presented to casualty within an hour of an alleged assault to the right side of his face. His visual acuity was perception of light right, 6/5 left. He was found to have a gross right upper and lower lid echymosis with around 8 mm proptosis (Fig. 1). It was very difficult to open the right eye, he had a dense afferent pupillary defect and the ocular movements on this side were grossly reduced in all directions of gaze. The intraocular pressure (IOP) on the right side was 46 mmHg. There was infra-orbital



**Fig. 1.** The right upper and lower lid echymosis.