aged 41 years; patients 2 and 3 were both aged 14 years.

Within 5 minutes of injection of Mydricaine subconjunctivally, the pulse rate of each patient rose dramatically (Fig. 1). In addition, in two of the patients a rise in blood pressure was noted also within 5 minutes. In patient 1 it rose from 150/70 to 195/95 mmHg; this steadily decreased over 30 minutes. In patient 2 the blood pressure rose from 100/50 to 145/75 mmHg; this steadily decreased over 15 minutes. All other parameters monitored remained unchanged. All patients made uneventful recoveries.

Discussion

Disturbances of the cardiac rhythm during ophthalmic surgery are observed in all patients of all ages.[4] Extrasystoles and sustained cardiac arrhythmias are particularly common in older patients.[4] Atropine when given intravenously appears to have a protective effect on the oculo-cardiac reflex.[4]

Atropine is an anticholinergic drug. Systemic absorption of subconjunctival atropine can result in adverse side-effects.[3,5] Cardiac dysrhythmias are one of the major adverse reactions. Atrial fibrillation and supraventricular tachycardia can be precipitated by the drug.[5] Cardiac effects of atropine should be considered carefully before administration of the drug via the subconjunctival route in patients with cardiac dysrhythmias.

Adrenaline is a potent, direct-acting alpha 1 agonist. Stimulation of these receptors can cause constriction of the systemic, pulmonary and coronary arteries, leading to severe hypertension, arrhythmias and myocardial infarction.[3] Procaine produces a tachycardia but its effect is significantly less than that produced by cocaine.[6]

It is conceivable that in our patients atropine, adrenaline and procaine caused the prolonged tachycardia by an additive effect and that in two of the patients their systemic absorption was enhanced by conjunctival hyperaemia secondary to the recent trauma.

Potent mydriatic agents such as Mydricaine are used to dilate pupils in hyperaemic uveitic eyes with posterior synechiae at outpatient clinics. We advise extreme caution when using these agents via the subconjunctival route in patients with previous cardiovascular disease and, in particular, a history of dysrhythmias. Careful patient selection should minimise severe cardiac complications.

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Sir,

Lattice Dystrophy and Corneal Ulceration

Lattice dystrophy is an autosomal dominant disorder, usually presenting in the first decade of life with symptoms of recurrent erosion or visual disturbance.[1] It is often thought to be a relatively benign disease, requiring penetrating keratoplasty for visual disturbance only, but in our experience it can become complicated by serious secondary anterior segment disease.

We present two patients with lattice dystrophy associated with corneal ulceration and abscess formation.

Case Reports

Case 1. A 45-year-old man with lattice dystrophy presented with a 2 day history of pain and decreased vision in his left eye. He had suffered four similar episodes in the preceding year. A diagnosis of corneal ulceration with an abscess and hypopyon was made. Microbial investigations did not yield any pathogenic organisms. The patient responded to intensive topical chloramphenicol and gentamicin, with resolution of the ulcer.

The same man presented 3 years later, with a 5 day history of a painful, red left eye and severe visual loss. A corneal abscess with hypopyon was found to be the cause. *Pseudomonas* sp. and *Moraxella* sp. were isolated and responded to topical cefuroxime and gentamicin. The corneal abscess resolved, but an epithelial defect remained and later required a penetrating keratoplasty.

Case 2. A 71-year-old man with lattice dystrophy and a painful, red right eye of 2 days' duration was found

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.[2] 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.[3] 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.[4]

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[1] and, usually, antibiotics[2] 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,[3] increasingly performed as day case procedures,[4] will result in more patients using topical therapy at home. Many people have difficulty instilling eye drops;[5] 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 vistis 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.