LETTERS TO THE EDITOR

Superglue accidents and the eye — causes and prevention

EDITOR,—Ocular superglue accidents have been described and suggestions for prevention made but they continue to occur. A review of two cases and the literature has led us to suggest that a simple change in superglue packaging design would greatly reduce the incidence of these accidents.

A 27-year-old man accidentally had superglue (nail fastening glue, cyanoacrylate) dropped into his right eye instead of chloramphenicol (Fig 1). His general practitioner had prescribed oral erythromycin 250 mg four times daily and the chloramphenicol eye drops for recurring folliculitis 2 days earlier.

On examination the right eyelids were glued shut. A decision to await spontaneous separation of the lids was made, his erythromycin continued, and chloramphenicol eye ointment commenced instead of drops.

On review 4 days later the lids were still fused and a decision was made to separate them under general anaesthesia. Postoperatively he had a small corneal abrasion which healed uneventfully.

The second case was a 17-year-old man who developed severe right eye pain after mistaking (in darkness) a superglue preparation for an over the counter eye medication which he used for a mild itching of his eyes.

On examination the lids were completely stuck down together and his eye was fixed beneath them. He was given chloramphenicol to put over the juncture of the lids and spontaneous separation was awaited.

Four days later there was a small yellow discharge from the eye, the lids were partially

Figure 2 The snap safe lid.

open, and the eye was mobile underneath. The glue was predominantly stuck to the lashes and the bulk of it was trimmed away with some of the lashes permitting the opening of the eye which was otherwise normal. He remained well at review 4 days later.

Mistaking cyanoacrylate for ophthalmic preparations is well recognised¹⁻⁴ and has been attributed to carelessness, poor vision, and childhood naivety.¹ Complicit in this is the use of plastics of similar texture for bottles of similar shape, size, and mechanism of use.

Suggestions for prevention have included (1) keeping medicines and superglue separate, (2) to have red bottle tops for superglue (though this was the situation in our first case), (3) to have superglue preparations with similar packaging to medications banned,² and (4) to have distinctive bottle shaping.³ We recommend the use of the snap safe lid (Fig 2). This childproof lid lock requires the alignment of two arrowheads for opening; demanding of the user an understanding of the opening mechanism (a

childproof factor), careful inspection (reducing carelessness), and the ability to see the arrowheads align (reducing accidents as a result of poor sight or in darkness). A warning label on or adjacent to the lid would be a useful addition. Convenience in packaging and use of the superglue product would be preserved.

It is likely that these two accidents would have been prevented had this opening mechanism been used for the superglue product.

The effects of superglue accidents include severe eye pain,³ corneal abrasion,^{1,3} punctate epithelial keratopathy,³ conjunctival epithelial abrasion,³ loss of lashes,¹ and eyelid skin excoriation,⁴ as well as the associated initial fear and tarsorrhaphy. Dermatitis,⁴ burns,⁴ and accidental oral administration have also been described.⁵ Change is clearly needed and the snap safe lid on superglue bottles would offer a simple and convenient way to prevent these accidents.

A M T GOOD

Royal Liverpool University Hospital,
Prescot Street,
Liverpool L7 8XP

S E McCABE

Gloucestershire Royal Hospital,
Great Western Road,
Gloucester GL1 3NN

- 1 DeRespinis PA. Cyanoacrylate nail glue mistaken for eye drops. *JAMA* 1990; 263: 2301.
- 2 Morgan SJ, Astbury NJ. Inadvertent self administration of superglue. A consumer hazard. *BMJ* 1984; 289: 226-7.
- 3 Lyons C, Stevas J, Bloom J. Superglue used inadvertently as eye drops. *BMJ* 1990; 300: 328.
- 4 Maitra AK. Management of complications of cyanoacrylate adhesives. *Br J Clin Pract* 1984; 38: 284-6.
- 5 Cousin GCS. Accidental application of cyanoacrylate to the mouth. *Br Dent J* 1990; 169: 293.

Excimer laser PRK and corticosteroid induced IOP elevation: the tip of an emerging iceberg?

EDITOR,—We have been performing excimer laser photorefractive keratectomy (PRK) with a VisX 20/20 laser for the correction of myopia and myopic astigmatism over the past year. Detailed preoperative assessment and frequent postoperative review include assessment of intraocular pressure (IOP) using a Goldmann-type applanation tonometer. IOP is recorded preoperatively, at 1 week and again at 1, 2, 3, 4, and 6 months after PRK. Following PRK all patients are given topical fluorometholone 0.1% four times daily (FML Liquifilm, Allergan, UK) to the treated eye for a minimum of 3 months as part of the standardised treatment regimen. Analysing the range of postoperative IOP measurements, we were surprised that, having treated more than 100 myopic eyes, no patient with a rise in IOP (of >4 mm Hg) secondary to this topical steroid use has been seen. One week after PRK 92% of these eyes had an IOP less than or equal to their preoperative level. However, of greater interest, at 3 months 60% of eyes (n=58) exhibited an IOP less than their preoperative level, and a total of 78% were equal to or less than preoperative IOP level despite continuous use of topical fluorometholone. No patient had a rise of IOP of greater than 4 mm Hg compared with preoperative IOP, and no IOP measurements greater than 22 mm Hg were encountered. It is notable that Atkins *et al*¹ recently reported a statistically significant drop in measured IOP in 118 eyes following PRK, but the authors of this study did not expand upon this rather unusual observation. The US Food and Drug Administration (FDA) controlled excimer laser PRK studies have utilised varied post-

Figure 1 The bottles confused in the first case.