

CORRESPONDENCE



# Late onset corneal oedema in pseudophakia and the concept of “blooming” with intraocular lens injectors

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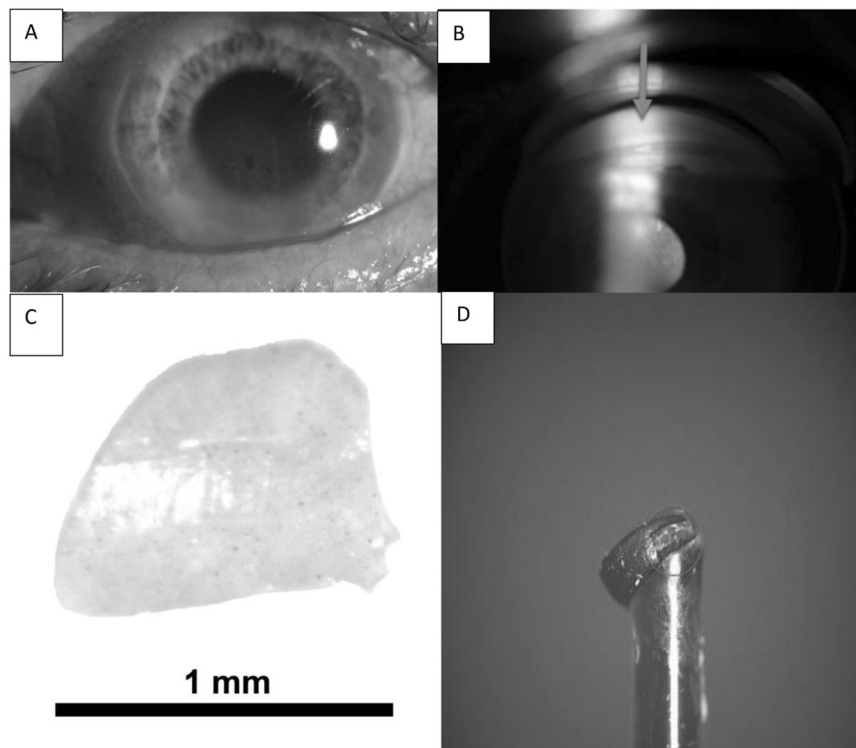
**TO THE EDITOR:**

Once the balance between the physiological processes of the cornea is disrupted by mechanical, infective, inflammatory or toxic aetiologies, corneal oedema ensues [1, 2]. Delayed onset corneal oedema in a pseudophakic patient can have several infective and inflammatory aetiologies, however, retained intraocular foreign body should be considered.

Figure 1a illustrates inferonasal epithelial and stromal oedema encroaching onto the visual axis in the left eye of an 84 year old pseudophakic patient, which did not present until six months after uncomplicated cataract surgery. The working diagnosis prior to

referral to us was viral keratitis, but treatment for this did not cause resolution of the corneal oedema. At referral, the patient’s vision was counting fingers, and there were no corneal findings suggestive of inflammation. Gonioscopy revealed a foreign body in the inferior iridocorneal angle (Fig. 1b). It was removed under local anaesthetic and sent for histopathological assessment and found to be non-organic (Fig. 1c). The corneal oedema resolved post operatively.

We believe that the haptic of the Akreos MI60L intraocular lens (IOL) (Baush and Lomb, New Jersey, USA) became fractured at the optic haptic junction, and dislodged intraoperatively during the IOL insertion process with a Visco-jet BIO 2.2 injector (Medicel, AG, Switzerland). The process of ‘blooming’ (legal manufacturer personal communication), where the plunger overrides the lens, contributes to fracture at the optic haptic junction, with the haptic becoming trapped between the cartridge and the plunger (Fig. 1d, not from



**Fig. 1** Slit lamp and high magnification photographs. **a** Corneal oedema inferotemporal cornea of the left eye with epithelial and stromal oedema and Descemet striae. **b** Gonioscopy image showing foreign body in the inferior iridocorneal angle (arrow). **c** Colour photograph of foreign body removed from the left eye. A plastic like object measuring 1 mm in diameter. **d** Colour photograph of the ‘blooming’ phenomenon which can occur with the Visco-jet BIO 2.2 injector (Medicel, AG, Switzerland) universal injector, and the entrapment of a fractured haptic (red circle, not from this case).

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this case). If the plunger is retracted before the cartridge is removed from the eye, the haptic may be dislodged into the anterior chamber, and lodge in the angle. There have been reports of haptic retention in the anterior chamber angle, where lens exchange had to be performed intraoperatively or delayed [3–5]. The IOL in this case was not noted to be decentred, but appeared supported by the rest of the three plate haptics. Peripheral anterior capsular opacification did not allow for the haptics to be visualized in the bag.

Blooming provides a mechanism for fractured haptics in uncomplicated cataract surgery when using the MI60 lens. It is important to ensure that the plate haptics are intact and the lens is in position after insertion particularly when ‘blooming’ is noted.

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## AUTHOR CONTRIBUTIONS

MA, BL, DJ and VSM all contributed equally to the formation of this manuscript, and were involved at each stage of its development.

## COMPETING INTERESTS

The authors declare no competing interests.

## ADDITIONAL INFORMATION

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