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## **Emergency penetrating keratoplasty in a perforated corneal ulcer with choroidal detachment**

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## PURPOSE

To present a case of urgent penetrating keratoplasty in a perforated corneal ulcer with choroidal detachment.

## REPORT OF CASE

A 89-year old woman presented to our department with decreased visual acuity in her left eye (LE) over the preceding five days and in her right eye (RE) over the past several months, accompanied by ocular pain. She had previously undergone cataract surgery in both eyes, and her ophthalmic history was otherwise unremarkable, with no history of ocular trauma. Best-corrected visual acuity was limited to hand motion (HM) in both eyes. Slit-lamp examination revealed the following findings:

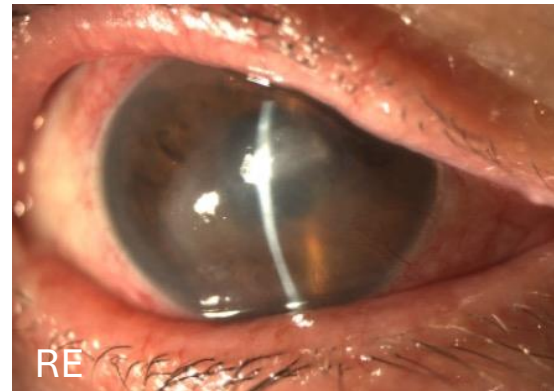
- **Right eye (RE):** Corneal ulcer with epithelial defect, stromal edema and corneal stromal vascularization (Fig. 1).
- **Left eye (LE):** Large perforated corneal ulcer (8 x 7.5 mm) with iris prolapse, flat anterior chamber, peripheral anterior synechiae, and hypotony (Fig. 2).



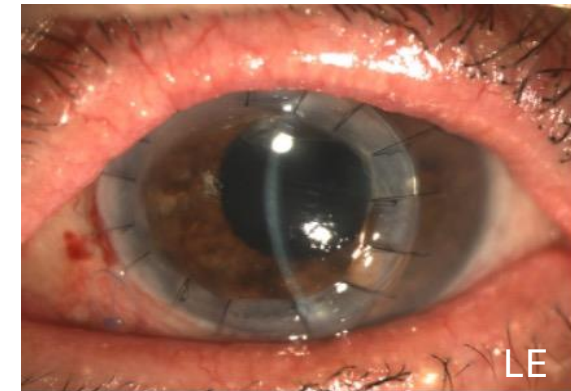
**Fig. 1**  
Corneal ulcer



**Fig. 2**  
Perforated corneal ulcer with iris prolapse and flat anterior chamber



**Fig. 4**  
Resolving corneal ulcer with subepithelial scarring



**Fig. 5**  
PK graft clear and stable, with deep anterior chamber

*Conflict of interest: none*

- Bscan ultrasound was carefully performed to avoid ocular compression revealing a choroidal detachment in the left eye (LE) (Fig. 3).
- Corneal specimens were obtained for microbiological cultures, along with comprehensive laboratory testing for infectious, autoimmune and rheumatologic diseases; all results were negative. The patient was started on empiric broad spectrum topical antibiotic therapy with vancomycin and amikacin eye drops administered hourly in the LE and topical moxifloxacin eye drops four times daily in the RE, combined with cycloplegic drops. In addition, oral antiviral therapy with valacyclovir was initiated due to a strong clinical suspicion of herpetic keratitis.
- The patient subsequently underwent urgent penetrating keratoplasty (PK) in the LE to seal the corneal perforation and restore ocular integrity. Postoperatively, treatment included topical antibiotics and corticosteroids administered four times daily.
- Two days after surgery, best-corrected visual acuity was 1/20 in the RE and 1/10 in the LE. The PK graft was clear and stable, all sutures were intact and well positioned, the anterior chamber was deep, and intraocular pressure was within normal limits (Figs. 4, 5). Bscan ultrasonography demonstrated complete resolution of the choroidal detachment two days postoperatively (Fig. 6).
- At the two-month follow-up, visual acuity was 1/10 in both eyes. The PK graft remained transparent and clear, the anterior chamber was well formed, and no postoperative complications were observed.

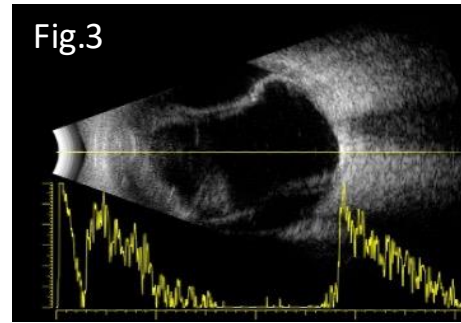


Fig.3

Fig.3 and 6

Bscan ultrasound before and after penetrating keratoplasty

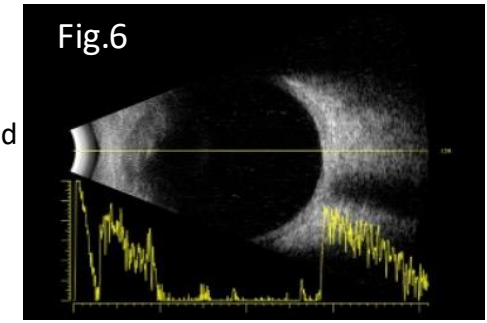


Fig.6

## CONCLUSION

A perforated corneal ulcer complicated by choroidal detachment is a severe vision threatening condition that requires prompt and urgent management to preserve the anatomical integrity of the globe and restore visual function. Therapeutic penetrating keratoplasty in this setting represents an extremely difficult and technically challenging surgical procedure; however, when performed appropriately, it can successfully maintain ocular integrity and salvage useful vision.

## REFERENCES

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