• Letter to the Editor •

Flap amputation for severe epithelial ingrowth post-LASIK: a case report

Mohamed Hosny[1], *Wessam Salem*[2]

[1]Department of Ophthalmology, Cairo University, Giza 12613, Egypt
[2]Department of Ophthalmology, New Giza University, Giza 12585, Egypt
Co-first Authors: Mohamed Hosny and Wessam Salem
Correspondence to: Wessam Salem. Department of Ophthalmology, New Giza University, Giza 12585, Egypt. wessam.n.a@gmail.com
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Dear Editor,

We present this case report which discusses a patient who underwent flap amputation after repeated attempts to resolve persistent and severe epithelial ingrowth following laser-assisted *in situ* keratomileusis (LASIK) surgery.

Epithelial ingrowth is a known complication of LASIK surgery, typically manageable with minimal measures. However, severe cases may necessitate more aggressive interventions, such as flap amputation[1]. LASIK is a widely performed refractive surgery with high success rates and excellent visual outcome[2]. Epithelial ingrowth, where epithelial cells migrate under the LASIK flap, is a complication that can lead to visual disturbances and discomfort. While minor cases can often be managed with flap lifting and debridement, severe and recurrent epithelial ingrowth may require flap amputation to preserve corneal health and vision[3].

Ethical Approval The study was conducted in accordance with the principles of the Declaration of Helsinki. The informed consent was obtained from the subject.

A 31-year-old man presented to the clinic with complaints of decreased vision and significant glare in his right eye 2.5y after undergoing bilateral LASIK surgery. His initial postoperative course had flap repositioning 1d after surgery. However, six months postoperatively, he began to notice decreased vision and glare in the right eye.

On examination by his original surgeon he was diagnosed with epithelial ingrowth and scheduled for flap lift and irrigation, the patient visual acuity was good for a period of six months after which he experienced drop of vision again in the same eye. The patient sought medical advice with a second ophthalmologist who recommended flap re lift, epithelial removal, mitomycin application and flap suturing for three weeks. Six months later the patient presented to our clinic with recurrent diminution of vision in the same eye for the third time with severe photophobia and blepharospasm. Slit-lamp examination revealed extensive epithelial ingrowth at the flap margin extending into the visual axis with lower flap melting (Figure 1).

Given the recurrent nature and extent of the ingrowth, the decision was made to proceed with flap amputation. The patient was counseled extensively about the procedure, its risks, and the expected outcomes.

Surgical Procedure Under topical anesthesia, the epithelial ingrowth was seen and then the LASIK flap was carefully lifted, and the ingrown epithelium was debrided. Due to the extensive nature of the ingrowth and the previous failed attempts at management, the decision was made to amputate the flap. The flap was excised using a pair of microsurgical scissors, ensuring that no epithelial cells remained at the stromal interface. The corneal bed was smoothed, and a bandage contact lens was placed over the cornea.

Postoperative Course The patient was placed on a regimen of topical antibiotics and corticosteroids. He was followed closely over the next several weeks, with the bandage contact lens being removed after one week. The epithelial defect healed completely within two weeks (Figure 2), and the patient's symptoms of glare and decreased vision resolved.

At the six-month follow-up, the patient's corrected distance visual acuity (CDVA) in the right eye was 20/25. His manifest refraction was (plano/+0.75 axis 100).

DISCUSSION

Epithelial ingrowth is a rare but challenging complication following LASIK. While most cases are mild and can be managed with simple debridement, severe or recurrent ingrowth may require more radical treatment, such as flap amputation[3]. Performing the Flap using the femtosecond

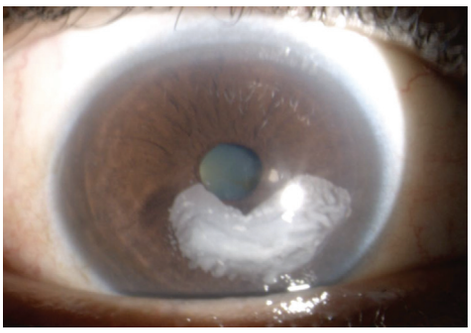

Figure 1 Dense epithelial ingrowth at time of presentation.

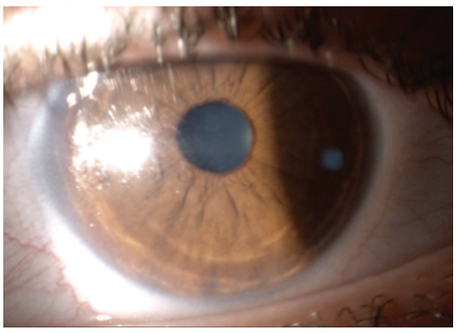

Figure 2 Two weeks post-operative.

laser has been found to both preserve more of the corneal biomechanical strength and decrease complications such as epithelial ingrowth as it has more even thickness and follows the corneal lamella[4-5]. Flap amputation is a definitive procedure that can eliminate the ingrowth and prevent further recurrence. In this case, the patient experienced significant symptomatic relief and maintained good visual acuity postoperatively of 20/40 uncorrected distance visual acuity (UDVA).

This case highlights the importance of early recognition and aggressive management of severe epithelial ingrowth. Flap amputation, while rarely necessary, can be a valuable tool in the armamentarium of the refractive surgeon.

In conclusion, flap amputation should be considered in cases of severe and recurrent epithelial ingrowth following LASIK, especially when conservative measures fail. While it is a drastic step, it can result in good visual outcomes and resolution of symptoms in carefully selected patients.

ACKNOWLEDGEMENTS

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