LASIK flap dislocation following direct face mask-induced mechanical trauma

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DESCRIPTION

A 26-year-old male patient underwent femto-second laser assisted in situ keratomileusis (LASIK) for a refractive error of -4 DS in both eyes. Surgery was uneventful and LASIK flap was well centred as observed on slit-lamp examination 1 hour after the surgery. The patient presented on postoperative day (POD) 1 with sudden diminution of vision in oculus dexter (OD). He noticed the diminution of vision, in association with mild pain and watering, approximately 4 hours after surgery, when he inadvertently thrust his mask up while repositioning it, causing the upper edge of the mask to hit the right eye. The patient was using a disposable N95 face mask. On examination, uncorrected distance visual acuity (UDVA) in OD was 20/200 and slit-lamp examination revealed a superiorly displaced flap. The flap was oedematous with several full-thickness folds involving visual axis (figure 1A,B). The LASIK flap in oculus sinister (OS) was well centred with UDVA of 20/20. The patient was taken up for OD flap repositioning. The pupil was dilated to facilitate an enhanced visualisation of flap folds and edge against the fundal glow. The epithelium was debrided and the crumpled flap was unfolded using a Merocel sponge. Repeated attempts were made to iron out the folds and refloat the flap with balanced salt solution, following which, it was repositioned over the stromal bed. A bandage contact lens (BCL) was placed over the cornea. Postoperative treatment comprised of topical antibiotics, steroids and lubricants. On POD 1, UDVA in OD was 20/20, with a well-centred flap and clear stroma (figure 2A,B). The BCL was retained for

2 weeks (replaced weekly) to ensure that flap remained in situ. The patient was advised to tape the upper edge of his mask to the nasal bridge to prevent repeated trauma.

Regular use of face masks has emerged as the most effective method to curb the spread of SARS-CoV-2.¹ Consistent use of masks, though beneficial, has been associated with various ophthalmic side-effects, including an adverse impact on ocular surface stability and aggravation of pre-existing dry eyes.² Intraoperatively, dispersion of micro-organisms towards ocular surface caused by redirection of the patient's breath within the mask may be a potential risk factor for postoperative infections.³ In addition to these adverse effects, direct mask-mediated mechanical trauma to cornea in post-surgical patients is a cause for serious concern, especially in post-LASIK patients. Postoperative LASIK flap displacement is a relatively rare but serious complication with a reported incidence rate ranging from 0.01% to 2%.⁴⁻⁶ It is important to educate patients to seek immediate help if they notice symptoms suggestive of flap subluxation, and it has been suggested to evaluate all of them in the period of greatest risk, that is, 2–4 hours after LASIK. This will allow for earlier flap refloatation and repositioning, thus diminishing the risk of sequelae.⁶

In the current scenario where face masks have become an indispensable tool to curb the spread of SARS-CoV-2, all patients undergoing ocular surgery should be advised to tape the upper edge of their mask to nasal bridge to prevent an inadvertent displacement of the mask which may cause mechanical trauma to the eye.

Figure 1 Preoperative slit-lamp image of the right eye. (A) Preoperative image with diffuse illumination depicting a superiorly displaced flap (yellow arrow). (B) Preoperative image with slit illumination depicting an oedematous flap with folds involving the visual axis (yellow arrow).

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Figure 2 Postoperative slit-lamp image of the right eye. (A) Postoperative day 1 image with diffuse illumination depicting a well-centred flap. (B) Postoperative day 1 image with slit illumination depicting a well-apposed flap with clear stroma.

Patient's perspective

I was distraught by the occurrence of such a complication after LASIK caused by trauma to my eye with my face mask. It was a big relief to regain my vision after undergoing the procedure to realign my flap.

Learning points

- Use of face masks has emerged as one of the most effective methods to curb the spread of SARS-CoV-2.
- Direct mask-associated mechanical trauma to the cornea may lead to flap dislocation in post-LASIK patients.
- Taping the upper mask edge to the nasal bridge in the postoperative period may help prevent this complication.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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