

INTERFACE FLUID SYNDROME INDUCED BY SCLERAL CONTACT LENS

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BACKGROUND

Interface fluid syndrome (IFS) describes the collection of fluid posterior to the Laser In Situ Keratomileusis (LASIK) flap. IFS has been described in patients after LASIK with elevated intraocular pressure, mostly induced by topical steroid therapy. IFS has also been reported in patients with endothelial decompensation due to Fuchs Endothelial Dystrophy (FED).

CASE DESCRIPTION

A 50-year old patient underwent a bilateral LASIK for high myopia in 2010. Due to FED with corneal decompensation, Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK) was performed on his left eye in 2017 after previous uncomplicated cataract surgery. Due to irregular astigmatism, mini scleral contact lenses (SCL) were fitted six months after DSAEK in order to optimize visual correction from best-spectacle corrected visual acuity of 0.5 (Snellen chart) to best-contact lens corrected visual acuity of 1.0. After wearing the scleral lenses for more than eight hours, the patient observed halos and blurred vision after SCL removal. On examination there was a fluid collection in the interface posterior to the LASIK flap, which was also visible on the anterior segment OCT. After removal of the scleral lenses, the symptoms resolved spontaneously after two to three hours.

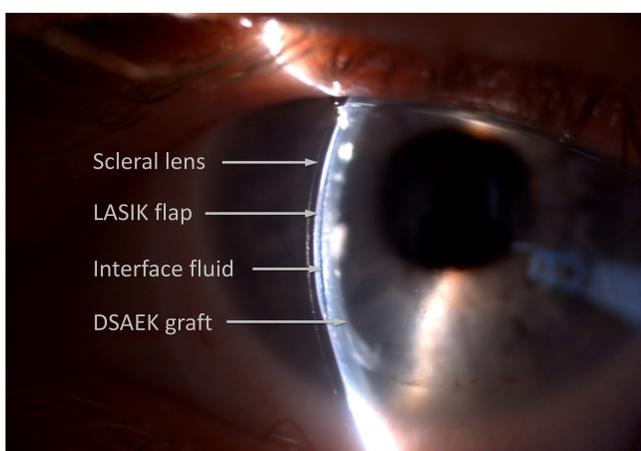


Figure 1 Interface fluid on slit lamp examination

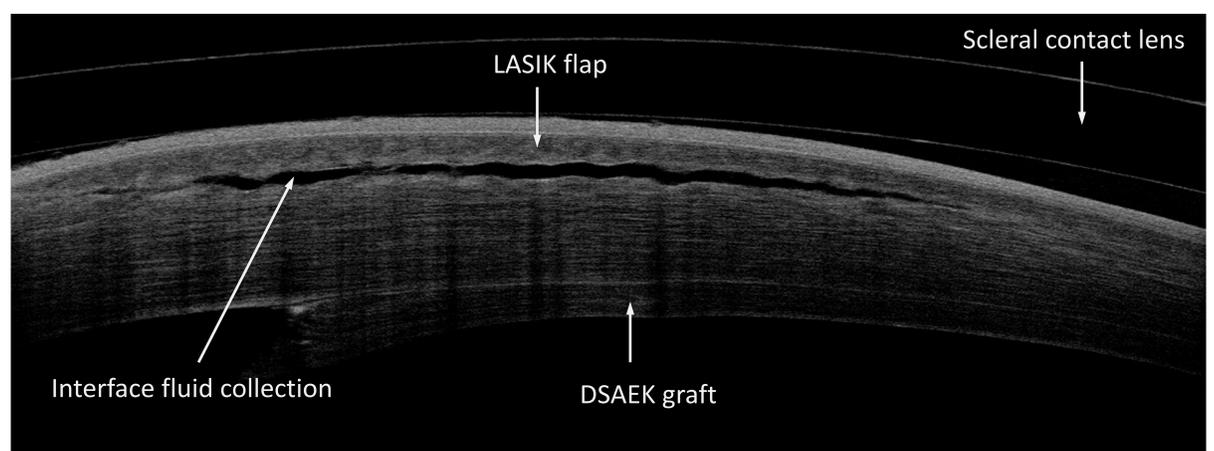


Figure 2 Interface fluid collection on anterior segment OCT

DISCUSSION

In this case, IFS may be caused by diminished oxygen supply which leads to hypoxia-induced corneal swelling in the peripheral host cornea with subsequent accumulation of fluid in the LASIK interface.

CONCLUSION

This is the first report to reveal IFS induced by scleral contact lens wear after DSAEK. IFS and its potential clinical effects should be taken into account when adjusting scleral lenses in LASIK patients after DSAEK.

REFERENCES

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