Recurrent late onset diffuse lamellar keratitis

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Key Words: LASIK, Complication, Diffuse Lamellar Keratitis,

A 27-year-old female with history of bilateral LASIK procedure 8 years ago, was referred for decreased vision in her left eye following blunt trauma by her child's hand, sustained three days earlier. Her best corrected visual acuity (BCVA) was finger counting @ 50 cms in the left eye. A well apposed LASIK flap with conjunctival congestion and corneal epithelial defects was noted in the left eye. A focal aggregation of large, greyish white cells was noted at the level of the interface, involving the pupillary area [Fig. 1A and A']. A diagnosis of grade III late onset Diffuse Lamellar Keratitis (DLK) was made. She was started on topical prednisolone acetate (1%) eye drops every hourly along with topical antibiotics and lubricants. The following day [Fig. 1B], anterior segment OCT revealed linear hypointense area at the flap interface indicating separation of the flap from the underlying bed, thus signifying interface edema [Fig. 1B']. Resolution of infiltration was noted at one week [Fig. 1C and C'] and at 7 weeks, her BCVA was 6/9, N6 with a clear interface and a well apposed flap [Fig. 1D and D'].

She presented 3 months later, following blunt trauma again due to her child's hand to her left eye with BCVA of 6/18, N36 with resolving epithelial defect and diffuse cellular aggregates in the interface suggestive of grade II DLK [Fig. 2]. At final follow-up at one week, her BCVA was 6/9 partial, N6 with minimal interface infiltrates following treatment with topical 1% prednisolone acetate eye drops.

Discussion

Late onset DLK may occur weeks, months or years after LASIK due to various inciting factors.[1,2] Our patient complained of

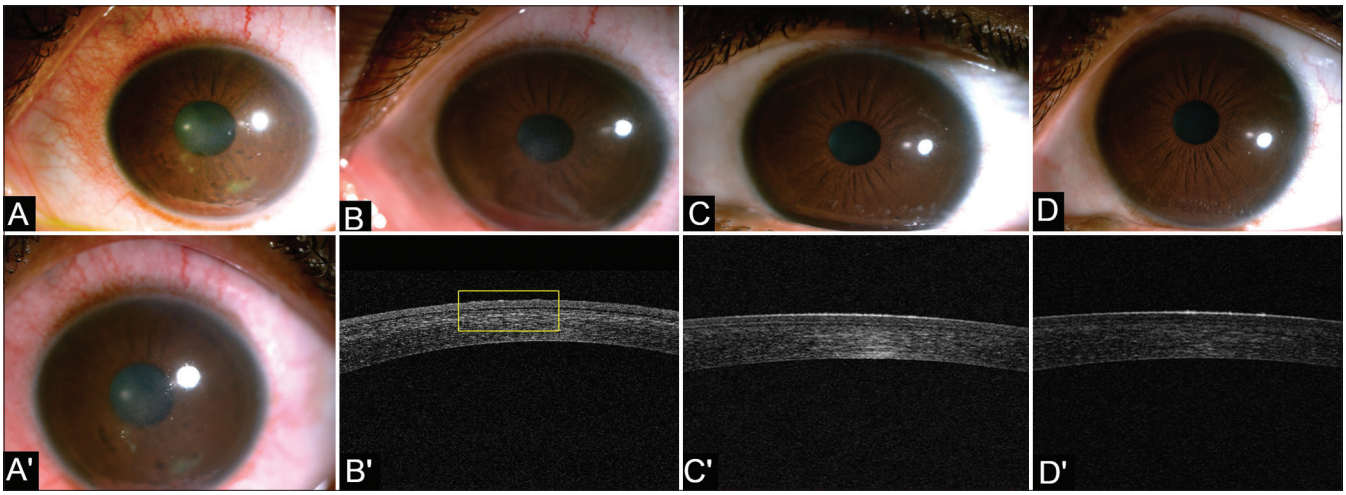

Figure 1: (A, A') – Day 0 - Slit lamp photograph showing corneal epithelial defects and focal aggregation of greyish-white cells within in the pupillary area. (B) – Day 1 - Minimal reduction in greyish-white cells. (B') – Anterior segment OCT (AS OCT 3D OCT-1 Maestro, Topcon, Japan) image showing separation of the LASIK flap from the stromal bed, thus signifying interface edema. (C) – 1 week - Minimal cellular aggregates. (C') – Reduced interface edema on AS OCT. (D) – 7 weeks - Complete resolution of cellular aggregates. (D') – Normal apposition of the flap on AS OCT

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Quick Response Code:	Website: www.ijo.in
	DOI: 10.4103/ijo.IJO_1551_20

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Received: 17-May-2020 Revision: 11-Jul-2020
Accepted: 15-Jul-2020 Published: 23-Nov-2020

Cite this article as: Shah SG, Shah GY. Recurrent late onset diffuse lamellar keratitis. Indian J Ophthalmol 2020;68:3033-4.

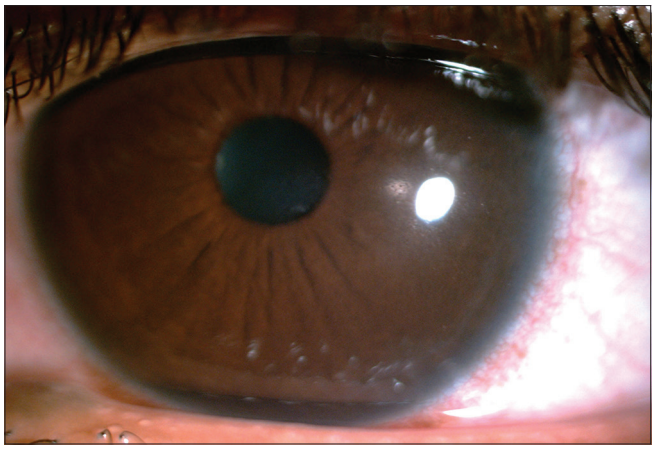

Figure 2: Slit lamp photograph of the left eye under diffuse illumination showing resolving epithelial defect with infiltration at the interface involving the pupillary area, three months following resolution of first episode

decreased vision and was diagnosed elsewhere as non-healing epithelial defect. However, her vision loss was severe and disproportionate to the epithelial defects which were located away from the pupillary area. The characteristic appearance of large, greyish white infiltrates at the interface similar to that of postoperative DLK led us to the diagnosis of late onset DLK. Also, the severe visual loss could be attributed to the presence of the infiltrates within the pupillary area. This case further highlights that DLK may be recurrent in the same eye, if the inciting event recurs.

In conclusion, accurate and timely diagnosis can avoid vision threatening complications and lead to successful outcomes in recurrent post traumatic late onset DLK.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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