The authors did point out the subtlety involved in IVCM imaging and analysis by referring to the importance of the unusual striking angles of the light rays from the confocal microscope that may influence the reflectivity of the cells and structures. Similarly, the depth and region of central cornea imaged will also greatly influence the analysis.[2] Along with varied patterns, the penetration density of the nerve plexus is known to be lower in the area around and inferonasal to the corneal apex.[2] Therefore, it is absolutely essential to ensure imaging at the same depth and region of central cornea during the follow-ups for a more accurate analysis. The other factor is with reference to corneal dendritic cell or Langerhans cell (cDC) density that is routinely assessed by IVCM. cDC density been well documented to be increased and associated with the severity of DED, and reduced during resolution of the disease.[3,4] It is rather unique not to observe cDC in the representative images nor in the IVCM findings of DED patients in the report by Iaccheri B *et al.* Combined corneal sub-basal nerve plexus morphology and cDC density changes are being used effectively in monitoring the resolution of DED.[5]

Conflict of interest

The author declare no conflict of interest.

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Eye (2018) **32,** 835–836; doi:10.1038/eye.2017.251; published online 24 November 2017

Sir,
Reply to Comment on: 'Corneal confocal scanning laser microscopy in patients with dry eye disease treated with topical cyclosporine'

We thank Dr Kumar[1] for the interest shown in our paper[2] and for the comment. Two points are emphasized. The first one is in relation to the importance of ensuring that the same part of the cornea is evaluated sequentially in follow-up studies for accurate demonstration of change. This is correct but in practice difficult with *in vivo* confocal microscopy (IVCM) as the area scanned is very small and there are no fixed landmarks that can be used for reference in subsequent imaging. This is a limitation associated with all similar IVCM studies. However, one can ensure with reasonable certainty that the same quadrant is examined at each visit. Furthermore, the Heidelberg IVCM device (used in this study) has a side camera that monitors the area of contact of the objective with the cornea and provides images that can be used to examine the same area, as closely as possible, at subsequent visit. In this study[1] we confined our examination to the center of the cornea with the patient looking straight hence is it very likely that the same area or its close vicinity was examined at each visit and that the LC and DC had not migrated to the area of examination.

The second issue that was highlighted is that the images illustrated in our paper[1] do not demonstrate Langerhan's (LC) or dendritic cells (DC). Both LC and DC are normally concentrated in the periphery of the corneal epithelium and stroma, respectively. Their number increase nonspecifically in inflammation and they migrate to the central area of the cornea. Changes in distribution and density of LC and DC do not directly correlate with nerve and keratocyte changes. The inflammatory component of dry eye disease (DED) can be variable and consequently changes in distribution and density of DC and LC can also be variable. When these changes are present they can be documented at the outset and response to treatment can be monitored. This study shows that they are not a consistent feature of DED as we did not see them in all patients. This also reflects the fact that DED is a heterogenous group of conditions that we lump together under one diagnostic term. It is likely that DED of post-menopausal women, DED post laser refractive surgery, DED associated with collagen vascular disease and age related DED are not the 'same' condition and the pathological manifestation of disease is different. This could be another reason why we did not see LC or DC in this study.

Conflict of interest

The authors declare no conflict of interest.

References

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Eye (2018) **32,** 836–837; doi:10.1038/eye.2017.253; published online 24 November 2017

Sir,
Fine cannula technique for sub-Tenon's injection for ophthalmic anaesthesia

Although various methods of local anaesthesia are in use for ophthalmic surgery, sub-Tenon's anaesthesia is the most popular due to its safety and efficacy. A variety of cannulae have been described for this technique, which vary in guage (G), material, and length. The most popular is a 25 mm, 19 G, curved, blunt, metal cannula first described by Stevens.[1]

Minor complications such as conjunctival chemosis and haemorrhage are common with the standard sub-Tenon's block. Although these rarely present a problem for routine cataract surgery, they may interfere with glaucoma surgery and cosmesis in the weeks following surgery. In our experience, long-term scarring and consequent discomfort may also be associated with the conjunctival incision.

Inserting the anaesthetic cannula directly into sub-Tenon's space without a prior conjunctival incision can reduce conjunctival damage. This also leads to a better, more reproducible block, due to less reflux of anaesthetic from a small insertion site. It also requires fewer instruments. Although incisionless techniques have been reported, we describe a modified incisionless technique using a finer, cheaper, more readily available cannula (26 G, 28 mm lacrimal cannula (Surgistar Inc., Vista, CA, USA) (Figure 1).

Between October 2015 and March 2016, local anaesthesia for consecutive routine cataract surgery was administered by inserting a lacrimal cannula into the inferonasal sub-Tenon's space without a prior conjunctival incision. Pain at each stage of the procedure was graded on a visual analogue scale (0–4). Measures of anaesthetic safety and efficacy were graded from 0 to 3.

Of 32 patients (10 males, 22 females), 57% developed conjunctival chemosis, 53% developed subconjuctival haemorrhage, 16% described pain during anaesthetic administration, 6% described pain during the procedure, and 87% had complete akinesia. The surgeon assessed the block as being 'excellent' in 93% of cases. There were no major complications and the majority of subconjunctival haemorrhage and chemosis involved only 1 quadrant (63 and 65%, respectively).

Our results show that our modified incisionless sub-Tenon's block produces excellent anaesthesia and akinesia with mild conjunctival haemorrhage and chemosis. The absence of a relatively wide conjunctival incision may also reduce post-operative scarring and discomfort.

We feel that, out of all sub-Tenon's blocks described, this technique causes the least trauma to the conjunctiva and the least reflux of anaesthetic, due to the small insertion site. This, in theory, should lead to better anaesthesia/akinesia and fewer complications. It is also cost-effective and uses a cannula that is readily available in all ophthalmology departments.

Our technique compares favourably with published data on the safety and efficacy of the standard sub-Tenon's block (Table 1).[1–4]

Limitations of this technique include pre-operative conjunctival scarring that makes insertion of the cannula without a prior incision difficult.

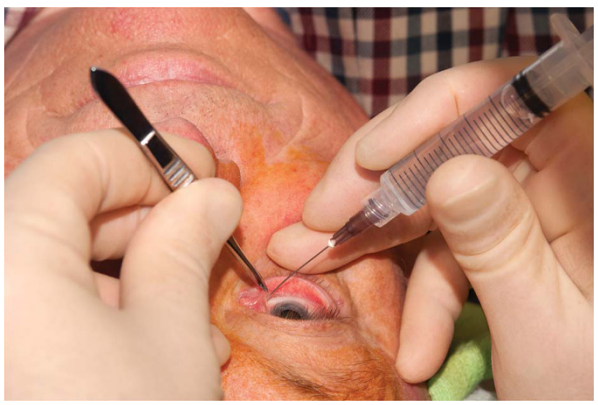

Figure 1 Modified incisionless sub-Tenon's block using the 26 G, 28 mm lacrimal cannula (Surgistar Inc., Vista, CA, USA).

Table 1 A comparison of the safety and efficacy of the sub-Tenon's block in different studies

	Stevens[1]	*Roman et al*[2]	*Guise*[3]	*Kumar et al*[4] *(3 cannulas)*	*El-Khayat et al* (present study, 2017)
Pain during block (%)	18	1	32		16
Pain during surgery (%)	4	3	7	0/0/0	2
Complete akinesia after block (%)	54	0		46/50/46	87
Complete akinesia after surgery (%)		0			59
Chemosis (%)		85	56	76/20/32	57
Subconjunctival haemorrhage (%)	34% (>1 Quadrant)	56	7	56/20/20	53