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Sir,

Non-contact *in vivo* scanning laser microscopy of blebitis

Trabeculectomy with adjunctive antifibrotic agents produces thin, avascular blebs and a greater risk of bleb leakage and infection.[1,2] These blebs usually demonstrate epithelial breakdown with goblet cell depletion.[1] Decreased inflammatory response and abnormal blood flow are risk factors for blebitis and of recurrent infection.[2,3] The Rostock Cornea Module (RCM) has been successfully used to image microstructural changes in filtering blebs.[4,5] We report the RCM findings of blebitis before and 3 months after treatment.

Case report

Three years following successful trabeculectomy with mitomycin C (0.4 mg/ml for 3 min), a 78-year-old man presented with complaints of tearing, pain, and redness of 2 days duration. The bleb was avascular, thin, and partially loculated with surrounding hyperaemia. No bleb leakage was noted, but cells were present in the anterior chamber. Intraocular pressure was 12 mm Hg. Before initiating treatment, multiple transverse images of the bleb were taken using a new non-contact prototype objective lens for the RCM ($\times 50$ Nikon lens, 1–2 μm transverse resolution, field of view: $500 \times 500\,\mu$m). Unlike quiet thick-walled blebs (Figure 1), the images of the thin inflamed bleb (Figure 2a) revealed markedly reduced epithelial and goblet cells, scattered presumed inflammatory cells, and increased stromal hyperreflectivity (Figure 2b and c). A few stromal cystic spaces were seen (Figure 2d). He was treated with fortified antibiotics and prednisolone drops, which were tapered over 3 months, after which the intraocular pressure was unchanged. No signs of bleb inflammation or leak were present (Figure 2e). Repeat confocal microscopy of the bleb just few days before discontinuing the steroids revealed increased number/size of stromal cystic spaces and the absence of the presumed inflammatory cells (Figure 2f). When compared with the images taken before treatment, the epithelial/goblet cells did not change and the stromal hyperreflectivity faded after the oedema resolved.

Comment

The non-contact RCM allows high-resolution imaging of thin or inflamed blebs without the risk of trauma. In our patient, the confocal images showed reduced epithelial cells and increased cellular infiltration, which

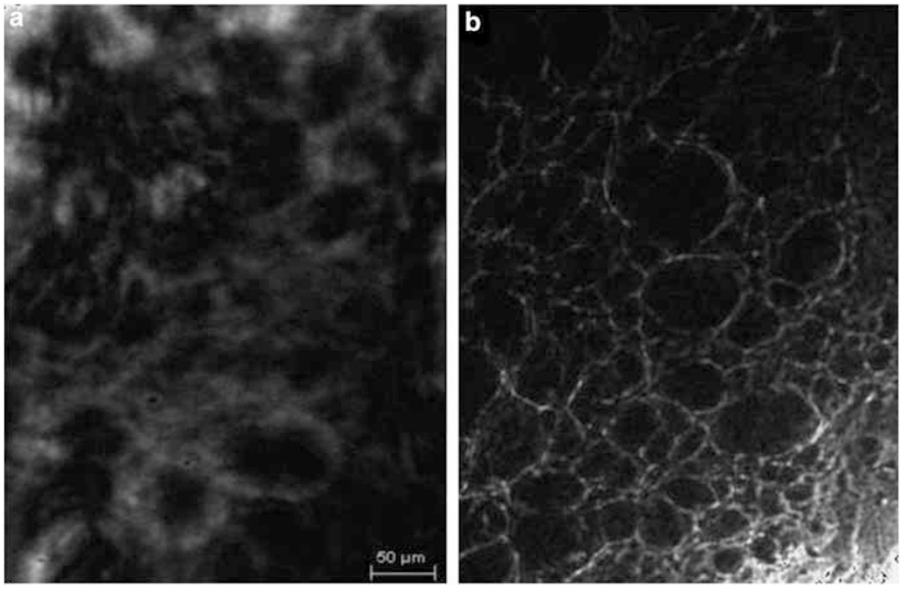

Figure 1 Confocal images of a quiet diffuse bleb showing regular epithelial cells (a) and multiple hyporeflective stroma with cystic spaces (b).

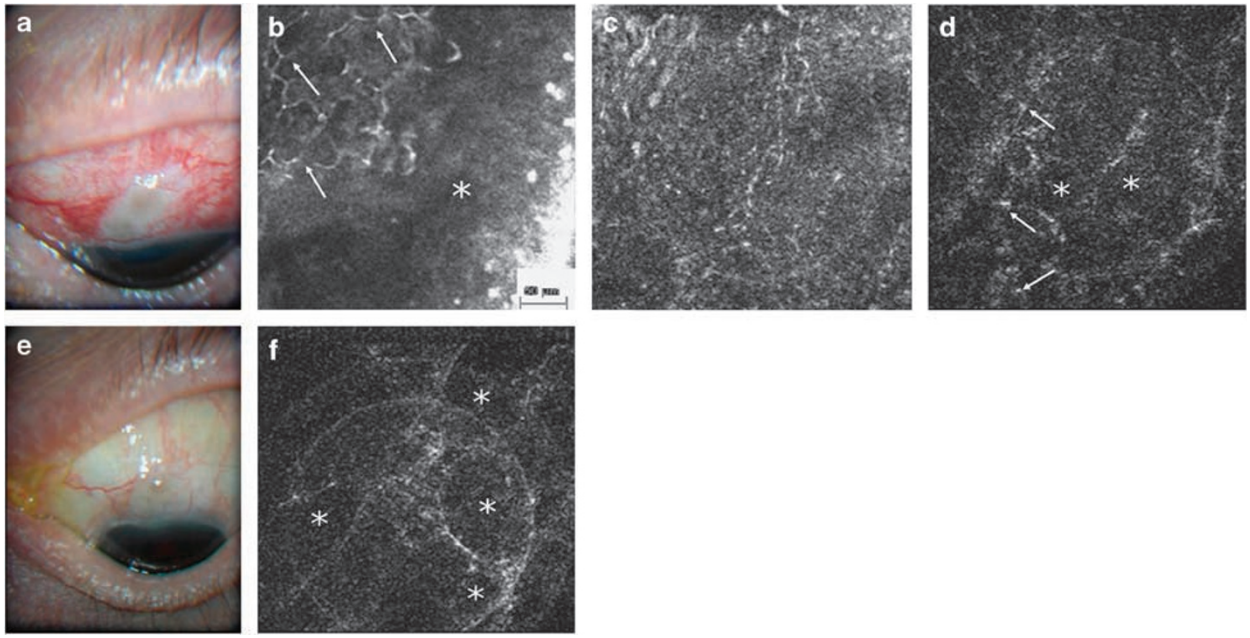

Figure 2 Slit-lamp and confocal images of the inflamed bleb before the initiation of the combined antibiotic and steroid treatment showing (a) thin, ischaemic loculated bleb with increased conjunctival and episcleral injection. (b) Few epithelial cells (arrows) with areas of cell loss (*). (c) Diffuse stromal hyperreflectiveity corresponding to oedema. (d) Ill-defined hyporeflective stromal cystic spaces (*) with presumed inflammatory cells (arrows). Images taken 3 months after the treatment showing (e) thin, quiet, and hypovascular bleb. (f) The absence of presumed inflammatory cells (arrows) and the increased number and size of stromal cystic spaces (*).

are similar to histological findings seen in blebitis.[3] It seems the inflammatory response did not adversely affect bleb filtration 3 months later, where the intraocular pressure was controlled and the aqueous-filled cystic spaces were still present and the steroid was then discontinued.

In conclusion, RCM is effective in identifying microscopic changes associated with bleb inflammation, such as cellular infiltration. It may aid clinicians in evaluating blebitis under long-term steroid use and thus bleb failure in subclinical stages.

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Sir,

Tobacco–alcohol amblyopia: can OCT predict the visual prognosis?

We report a case of tobacco–alcohol amblyopia (TAA) and correlate the improvement in visual function with