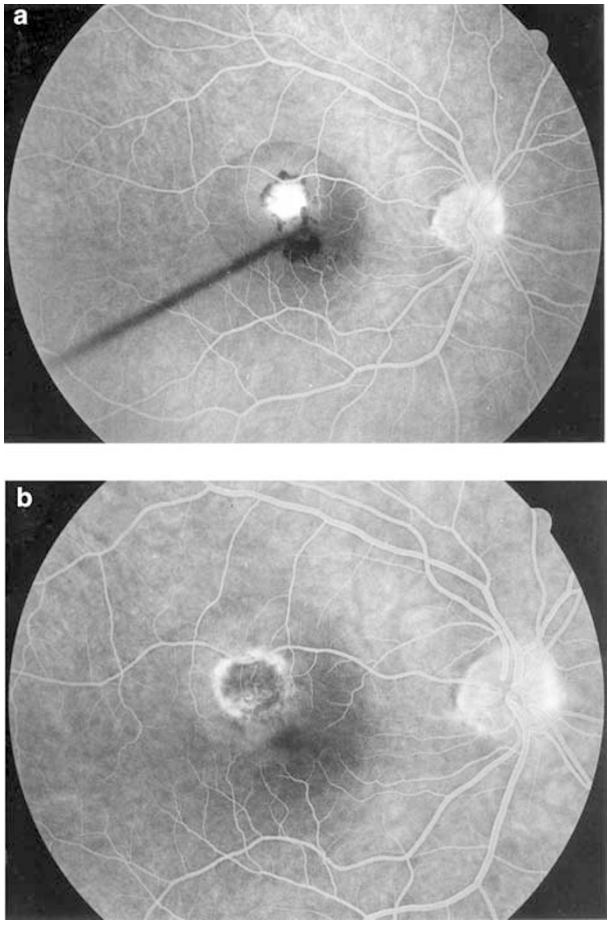

Figure 2 (a) Fundus angiogram of the same eye showing juxtafoveal classic CNV (before laser). (b) No leakage of fluorescein from CNV (after laser).

ischaemia[1] producing necrosis of the overlying Bruch's membranes. Factors that increase the risk of metastatic choroidal infection are intravenous drug abuse, cardiac abnormalities, diabetes mellitus, use of immunosuppressive drugs, and malignancy.[2,3] It can be an isolated lesion in the fundus but usually are multiple.

The possible time interval between the embolic events and subsequent CNV is 1–3 weeks.[1,2] The incidence of visual symptoms in patients with endocarditis is 5%.[4] The frequency of moderate to severe visual loss in patients who develop CNV following bacterial endocarditis is high. The visual loss could be due to sequelae of CNV itself or due to endophthalmitis, retinal artery occlusion by the septic emboli and iris abscesses. In reported cases,[2,3] due to bacterial endocarditis where only systemic antibiotics were tried, there is evidence that the vision can be stabilized but not significantly improved.

Information regarding systemic illnesses should be sought in all patients with CNV, especially, when there is no evidence of AMD or local ocular pathology in either eye. We report a case of isolated lesion, most likely due to septic prosthetic endocarditis which responded well to systemic antibiotics and laser treatment. The vision improved remarkably well to immediate laser treatment.

The answer to feasibility of immediate laser treatment to the CNV secondary to septic endocarditis needs further research and in large number of case studies.

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Sir,

Autologous serum drop-dependent re-epithelialisation following penetrating keratoplasty in chronic graft vs host disease

Chronic graft vs host disease (cGVHD) results in a particularly severe dry-eye condition that may ultimately

lead to both corneal infection and perforation. We report our experiences with such a patient and highlight the value of autologous serum drops to enhance re-epithelialisation following corneal grafting for corneal perforation. Their use in this condition has only been reported once before.[1]

Case report

A 31-year-old man underwent allogenic bone marrow transplantation (BMT) for chronic myeloid leukaemia and developed cGVHD.

His dry eyes were treated with punctual occlusion and lubricant drops, but despite this he developed a left corneal ulcer from which *Candida parapsilosis* was cultured (Figure 1). This perforated despite hourly topical amphotericin B 0.15% and oral itraconazole. He had an 8.5-mm penetrating keratoplasty, but 12 days postoperatively his epithelium had still not healed and early corneal graft melting developed. He was treated intensively with topical amphotericin, chloramphenicol, and oral itraconazole. He underwent amniotic membrane grafting, and bandage contact lens followed by a botulinum toxin-induced ptosis. No improvement of the epithelial defect occurred over 7 weeks, so autologous serum drops were started four times daily. Epithelial recovery started by 2 weeks with full epithelialisation after a further 6 weeks. He stopped using autologous serum tears a few weeks after this. The delayed epithelial healing may have partly been attributed to the intensive amphotericin treatment; however, he continued to be on amphotericin until the epithelial defect resolved and the autologous serum tears were stopped at the same time.

After 2 months, he developed a streptococcal keratitis in the graft, which again perforated. He had a second penetrating keratoplasty that had not re-epithelialised 3 weeks after surgery despite intensive treatment with 2-hourly preservative-free cefuroxime (5%) and hourly dexamethasone (Figure 2a and b). Autologous serum drops were restarted four times daily. Within 2 weeks re-epithelialisation was complete (Figure 2c). After 3 weeks, the graft bulged forward due to cheesewiring of the sutures in the donor cornea. A new epithelial defect developed probably due to friction between the proud cornea and upper lid. Graft re-suturing and continuing autologous serum tears allowed the defect to re-epithelialise fully within 2 weeks.

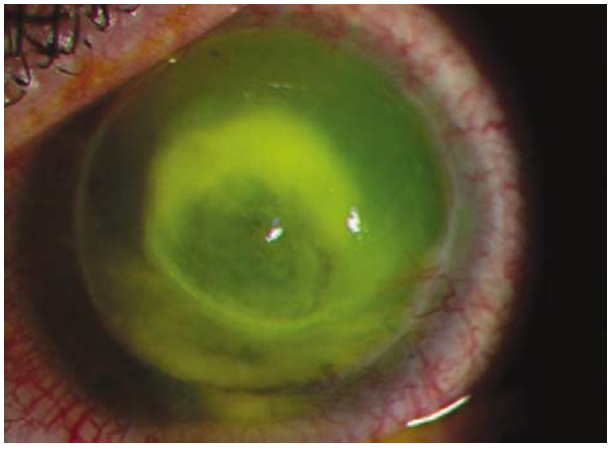

Figure 1 Perforated corneal ulcer, *Candida parapsilosis*.

Comment

We are aware of only five previous cases reporting cGVHD leading to corneal perforation.[2–6] Corneal grafting has a low success rate as the donor cornea is highly susceptible to further ulceration and melting, even in the absence of infection.[7] The relatively rapid re-epithelialisation we saw following the use of autologous serum drops has only been described once before in these circumstances,[1] and our case further highlights the usefulness of this treatment modality for this condition where other therapies have failed.

Effective management regimes have yet to be established for keratoconjunctivitis sicca in cGVHD. Options for treating epithelial defects in dry eyes involves copious preservative-free lubricants, punctal

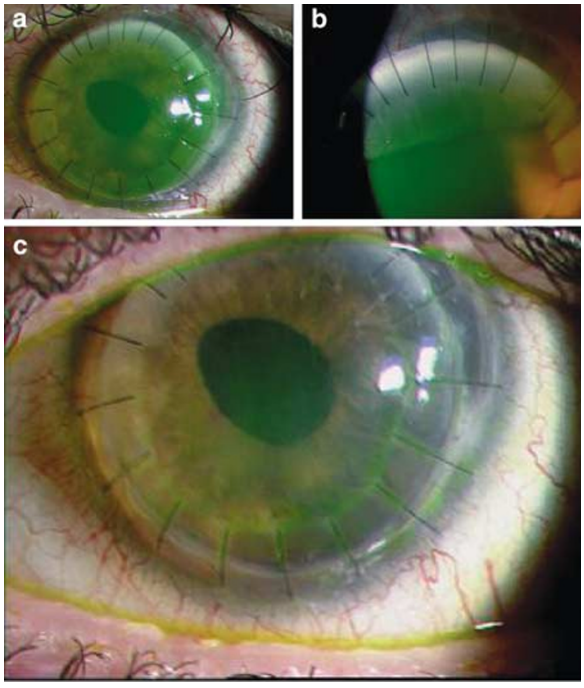

Figure 2 (a) Failed graft re-epithelialisation using conventional treatments. (b) Only a tiny area covered by upper lid showed any sign of epithelialising. (c) Graft fully epithelialised following introduction of serum tears.

occlusion, bandage contact lenses, tarsorrhaphy, botulinum toxin ptosis, conjunctival flaps, and amniotic membrane transplants.

In our patient, as conventional treatment failed to restore ocular surface integrity, he underwent an amniotic membrane transplant (AMT). AMT treats persistent epithelial defects by acting as a biological contact lens, preventing lid trauma and corneal exposure.[8] It also has unique biological properties including antibacterial, epithelialisation-promoting, and fibrous-supporting effects.[9] However, in our case AMT made no difference to the epithelial defect, so autologous serum tears were started.

Autologous serum tears support corneal epithelial cell migration and differentiation, and have been found to be superior to either preserved or unpreserved pharmaceutical preparations in maintaining keratocyte morphology and function.[10] Patients have reported that the duration of symptomatic relief from serum tears is longer than artificial tears.[11] The rationale for treatment is based on the fact that vitamins and growth factors found in tears are also found in serum. Autologous serum tears have been successfully used in the treatment of dry eye secondary to Sjogren's syndrome, cicatricial pemphigoid, Stevens-Johnson syndrome, and superior limbic keratitis.[12] Local variations in strength (20–100%)[10,12] and preparation of autologous serum tears exist. In our patient, a strength of 100% was used, made from 60 ml clotted blood centrifuged at 2000 revs/min for 5–10 min. Aliquots of serum were transferred into several sterile 5 ml glass bottles that were each used for 1 week. Microbial contamination of the autologous serum drops could theoretically lead to further corneal infection, but this does not appear to be a common problem.[12]

Owing to the increasing survival rates of patients following BMT, it is important for both ophthalmologists and haematologists to be aware of the ocular complications associated with cGVHD. Early use of autologous serum drops in such patients who develop epithelial breakdown postpenetrating keratoplasty may have a role in preventing sight-threatening complications.

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Sir,

Choroidal folds after 25 gauge transconjunctival sutureless vitrectomy

Pursuit for smaller wound incision, expedited postoperative recovery are always the core issues in ophthalmic surgical development. Transconjunctival sutureless vitrectomy (TSV) with 25 gauge (G) is a new approach in vitreoretinal surgery without the need of preparing conjunctival and scleral openings or closure.[1,2] The mean operative time had been shortened by 33.7% with this new vitrectomy system.[1,2] It was demonstrated