

Efforts to prevent or reduce the incidence of this disease have employed many pharmacological and dietary supplements. Recent large randomised trials have not shown a benefit from the use of aspirin. Similarly calcium supplementation has also been widely studied and found to be ineffective in reducing the incidence or severity of pre-eclampsia. The studies regarding zinc, magnesium and fish oils are less extensive, but also found minimal to no benefit. Numerous randomised trials have also been performed using antihypertensive agents, diuretics and a low salt diet. Results of these studies have not shown any beneficial effect.

In conclusion, cortical blindness is a rare but recognised complication of pre-eclampsia that is usually reversible. We report this case to emphasise that in some instances visual loss may be permanent. The postulated underlying mechanism of vascular endothelial dysfunction is depicted by the focal ischaemic changes in the brain seen in neuroimaging. However, until the pathogenesis of pre-eclampsia is well understood prevention of this condition by any means remains unlikely.¹¹

References

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Sarah J. Wilson ✉
Richard M. Best
Department of Ophthalmology
Royal Victoria Hospital
Belfast BT12 6BA
Northern Ireland, UK

Mark Love
Department of Radiology
Craigavon Area Hospital
Craigavon
Northern Ireland, UK

Hussein Kamel
Department of Neuroradiology
Royal Victoria Hospital
Belfast BT12 6BA
Northern Ireland, UK

Sir,

Trabeculectomy for central retinal artery occlusion

Central retinal artery occlusion (CRAO) is associated with a poor visual outcome.¹ Treatment is often undertaken on presentation to improve ocular perfusion and, it is hoped, vision. Lowering intraocular pressure either by medical means, or surgically by paracentesis, has been shown to improve visual outcome and perfusion.² Repeated paracentesis has been described.³ We report a patient who required a trabeculectomy to lower intraocular pressure after repeated paracentesis was successful but ocular perfusion worsened as intraocular pressure increased.

Case report

A 56-year-old man presented to the Eye Casualty with a 4 h history of decreased vision in his right eye. He had a visual acuity of Perception of Light (PL) with a poor pupil response, intraocular pressure 32 mmHg, and fundal appearance consistent with CRAO. The visual acuity in his left eye was No Perception of Light (NPL) due to an atherosclerotic CRAO 4 years previously. He had severe atherosclerotic disease necessitating a femoral-popliteal bypass operation and was fully warfarinised with an international ratio of 3.2.

On this occasion treatment was undertaken with immediate paracentesis using a 27 gauge needle under topical anaesthesia at the slit lamp. One to two minutes after paracentesis the intraocular pressure was 7 mmHg, and his vision improved to 6/36 with a reactive pupil. Twenty minutes later the vision began to deteriorate; the intraocular pressure had risen to 18 mmHg. A further paracentesis followed by intravenous acetazolamide 500 mg was undertaken with subsequent improvement in vision to 6/36. After half an hour there was a further deterioration of vision and a further paracentesis was performed. After paracentesis on each occasion his pupil response returned and his retinal circulation was restored. It was decided to undertake a trabeculectomy, which was performed approximately 4 h after first presentation. Sub-Tenon's anaesthesia was used with a standard technique involving a limbus-based conjunctival flap, standard scleral flap trabeculectomy and peripheral iridectomy.

The following day his intraocular pressure was 10 mmHg and his visual acuity was 6/60 with a small hyphaema. Twenty-four months later he is maintaining a pressure of 18 mmHg and a visual acuity of 6/24. Carotid Doppler sonography showed a 50–70% lumen loss and a plaque in the common carotids causing turbulent flow.

Arteritic CRAO requires urgent treatment with corticosteroid.¹ Non-arteritic CRAO occlusions are usually caused by emboli of various compositions from the carotid arteries or the heart. Thirty per cent of patients have valvular disease.⁴ CRAO is usually associated with a poor visual outcome¹ as the first eye of our patient demonstrates. Experimental studies in the rhesus monkey found irreversible retinal damage at 105 min.⁵ CRAO is, however, rarely complete and useful vision can be restored if treatment is begun even several hours after onset.

Described treatments aim at reducing the intraocular pressure, thus reducing resistance to inflow from the central retinal artery. This increases the pressure differential across the central retinal artery and increases the perfusion pressure of the eye. It is alleged that an increase in retinal blood flow may move the embolus or increase blood flow past the obstruction.

Treatment regimes show variable rates of improvement; patients present at various times after occlusion and the occlusions may be partial or complete. Vision of 20/100 or better has been reported in 35% of patients.³ Lowering of intraocular pressure is usually the mainstay of treatment to increase ocular perfusion and this may be repeated.⁴

The patient in our report had an improvement in visual acuity with repeated paracentesis but the visual acuity decreased again. There was a family history of glaucoma and his presenting pressure was high. A surgical filtering procedure was therefore performed and has for 2 years maintained his visual acuity. We therefore suggest that acute trabeculectomy may well have a use in such a patient where there is improvement in vision with paracentesis which deteriorates after time with increasing intraocular pressure. Maintaining a low intraocular pressure should help continue perfusion.

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P.A. Harvey ✉
S. Winder
J.F. Talbot
Department of Ophthalmology
Royal Hallamshire Hospital
Glossop Road
Sheffield S10 2JF, UK

Sir,

The use of a vaccine in recurrent corneal graft infection

The benefits to ophthalmology of vaccination have already become apparent. It has been shown that a herpes simplex vaccine seems able to reduce the number and duration of relapses of herpes simplex virus 1-related keratitis and keratouveitis.¹ A vaccine against *Haemophilus influenzae* has resulted in this organism no longer being a significant pathogen in periorbital or orbital cellulitis in vaccinated populations.²⁻⁴

Microbial infection of a corneal graft can have devastating effects on the eye. There is a poor prognosis for graft survival and the re-graft rate can be as high as 53%.⁵ The percentage of grafts that remain clear after infective keratitis can be as low as 23%.⁵

Streptococcus pneumoniae is a significant pathogen in microbial keratitis associated with penetrating keratoplasty.⁵ Here we describe a novel approach to management of recurrent pneumococcal microbial keratitis in a corneal graft.

Case report

A 78-year-old woman underwent a combined left penetrating keratoplasty and extracapsular cataract extraction on 20 September 1994. The indication was bilateral cataracts combined with Fuchs' endothelial dystrophy. The post-operative period was uncomplicated. On 21 November 1996, she presented with a painful left eye. She was noted to have a left corneal ulcer at 2 o'clock at the graft-host junction. Immediate Gram stain revealed the presence of Gram-positive cocci and culture confirmed the diagnosis of pneumococcal ulcer. Because of a concurrent chest infection, a sputum sample was taken and this grew *Streptococcus pneumoniae* as well as *Haemophilus influenzae*. The chest infection responded to oral antibiotics and the corneal ulcer responded to removal of involved sutures and intensive therapy with penicillin drops. The ulcer had healed totally by 27 December 1996.

In January 1997 she developed a chest infection and presented again to the eye department on 21 February 1997 with pain and redness of her left eye. She was noted to have a corneal abscess at 7 o'clock in the area of the graft-host junction. Gram stain once again revealed the presence of Gram-positive cocci, which were confirmed as *Streptococcus pneumoniae* by later culture. She was started on hourly penicillin and ciprofloxacin topically and the involved sutures were removed. The cornea healed on this regime and she was discharged on 3 March 1997.

It was considered that this patient was at high risk of developing further pneumococcal corneal ulcers in the grafted eye, and it was thought that her recurrent lung infections were due in part to *Streptococcus pneumoniae*. The chest infections may have been a primary source leading to secondary infection of the grafted cornea. We decided it was appropriate to consider vaccination of this patient with pneumococcal vaccine. Because of the