8 **Garcia CA**, Gomes AH, Garcia Filho CA, *et al*. Early-stage diffuse unilateral subacute neuroretinitis: improvement of vision after photocoagulation of worm. *Eye* 2004;**18**:624–7.

Severe invasive β haemolytic group A streptococcal cellulitis and eyelid necrosis treated with linezolid

Fewer than 50 cases of invasive group A streptococcal (iGAS) eyelid infections have been reported.[1] Predisposing factors include skin trauma or surgery[2–7] and immunosuppression.[3 4] iGAS preseptal cellulitis can be devastating; potentially leading to streptococcal gangrene of the eyelids,[1] which can be fatal with a mortality of 40% in the presence of bacteraemia, and an overall mortality of 18%.[1]

Case report

An 80 year old man with rheumatoid arthritis presented with rapidly spreading periorbital erythema involving both eyes within 12 hours, having started at the left pinna which was markedly swollen and discharging (fig 1).

Empirical treatment was begun for possible necrotising streptococcal infection with clindamycin 900 mg four times daily and imipenem 500 mg four times daily. Features suggestive of iGAS infection included the elevated creatine kinase (243 IU/l) and, in particular, marked blistering and a serosanguinous discharge rarely found in staphylococcal infections.

GAS sensitive to penicillin, clindamycin and linezolid was cultured from eye and ear swabs. Despite aggressive treatment, on day 3 he remained pyrexial, the C reactive proyein (CRP) peaking at 374 g/l.

However, within 24 hours of adding oral linezolid, 600 mg twice daily, the CRP fell to 208, with a dramatic improvement in the cellulitis. Examination of the right eye was impossible because of gross swelling, subcutaneous emphysema and thick scab. Very limited left eye examination was possible; visual acuity was 6/9. There was no relative afferent pupil defect.

Computed tomography imaging (fig 2) confirmed the clinical impression of preseptal infection.

By day 8, the cellulitis had largely resolved, exposing a tense right upper lid abscess yielding sterile pus on drainage. There was localised eyelid necrosis but debridement was unnecessary. By day 21, both eyes could close adequately despite upper lid skin defects (right larger than left, fig 3). On discharge at 3 weeks, the right upper lid had mild ectropion secondary to healing, and corrective lid surgery was deferred.

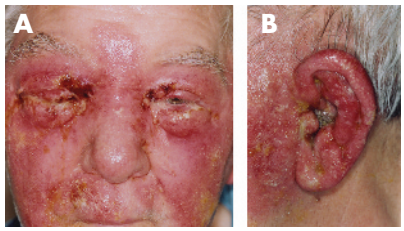

Figure 1 Preseptal cellulitis with pinna involvement.

Figure 2 Computed tomography showing preseptal cellulites.

Figure 3 Upper lid skin defects after cellulitis resolution.

Comment

Our patient presented with a severe iGAS infection, his only risk factor was rheumatoid arthritis. Fortunately he did not develop orbital cellulitis where more serious surgical intervention has been necessary—for example, multiple drainage of abscesses or evisceration[8] and even exploration of the neck.[3]

Our case demonstrates how difficult iGAS can be to treat. Although the creatine kinase was raised, there were no other features of myositis or toxic shock syndrome.[6]

Penicillins are largely ineffective in severe iGAS infection because of the Eagle[9] effect; bacteria in the non-dividing or stationary phase being immune to cell wall active antibiotics.

Debridement being unnecessary once linezolid was added, there was no definitive histopathological evidence of necrotising fasciitis.

This is the first case of iGAS periorbital infection treated successfully with linezolid. A novel synthetic oxazolidinone antibiotic, linezolid is equally active orally and intravenously, and effective against Gram positive organisms, including streptococci and methicillin resistant *Staphylococcus aureus* (MRSA).[10] Both clindamycin and linezolid prevent toxin production by inhibiting bacterial protein synthesis initiation at the ribosome, but linezolid acts earlier in the process.

Clindamycin has been the drug of choice for severe iGAS infections. In our experience, the delayed response to high dose clindamycin was unusual. The addition of linezolid had a dramatic clinical effect, but we are uncertain whether linezolid's earlier mechanism of action explains why it appeared to be more effective than clindamycin in our patient. The suggestion[11] that using both agents together dramatically decreases toxin release could equally be borne out in this case.

J-S Barry
Ophthalmology Department, Royal Devon and Exeter Hospital, Barrack Road, Exeter EX2 5DW, UK

J A Burge
Department of Medicine, Royal Devon and Exeter Hospital, Barrack Road, Exeter EX2 5DW, UK

D B Byles
Ophthalmology Department, Royal Devon and Exeter Hospital, Barrack Road, Exeter EX2 5DW, UK

M S Morgan
Department of Microbiology, Royal Devon and Exeter Hospital, Barrack Road, Exeter EX2 5DW, UK

Correspondence to: John-Sebastian Barry, Ophthalmology Department, Royal Devon and Exeter Hospital, Barrack Road, Exeter EX2 5DW, UK; johnsbarry@doctors.org.uk

The patient has given full verbal and written consent for publication of the case and of the included photographs and scan image.

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References

1 **Shayegani A**, MacFarlane D, Kazim M, *et al*. Streptococcal gangrene of the eyelids and orbit. *Am J Ophthalmol* 1995;**120**:784–92.
2 **Overholt EW**, Flint PW, Overholt EL. Necrotizing fasciitis of the eyelids. *Otolaryngol Head Neck Surg* 1992;**106**:339–43.
3 **Rose GE**, Howard DJ, Watts MR. Periorbital necrotising fasciitis. *Eye* 1991;**5**:736–40.
4 **Marshall DH**, Jordan DR, Gilberg SM, *et al*. Periocular necrotising fasciitis. *Ophthalmology* 1997;**104**:1857–62.
5 **Jordan DR**, Mawn L, Marshall DH. Necrotising fasciitis caused by group A streptococcus infection after a laser blepharoplasty. *Am J Ophthalmol* 1998;**125**:265–6.
6 **Ingraham HJ**, Ryan ME, Burns JT, *et al*. Streptococcal preseptal cellulitis complicated by the toxic streptococcus syndrome. *Ophthalmology* 1995;**102**:1223–6.
7 **Kronish JW**, McLeish WM. Eyelid necrosis and periorbital necrotizing fasciitis: report of a case and review of the literature. *Ophthalmology* 1991;**98**:92–8.
8 **Ng SG**, Nazir R, Sabhudi CPK, *et al*. Necrotizing orbital cellulitis. *Eye* 2002;**15**:173–7.
9 **Eagle H**. Experimental approach to the problem of treatment failure with penicillin. I. Group A streptococcal infection in mice. *Am J Med* 1952;**13**:389–99.
10 **Stalker DJ**, Junbluth GL. Clinical pharmacokinetics of linezolid, a novel oxazolidinone antibacterial. *Clin Pharmacokinet* 2003;**42**:1129–40.
11 **Coyle EA**, Cha R, Rybak NJ. Influences of linezolid, penicillin, and clindamycin, alone and in combination, on streptococcal pyrogenic exotoxin A release. *Antimicrob Agents Chemother* 2003;**47**:1752–5.

Intraocular soluble IL-2 receptor alpha in a patient with adult T cell leukaemia with intraocular invasion

It has been reported that human T cell lymphotropic virus type I (HTLV-I) infection is related to a wide range of ocular disorders, such as intraocular lymphoma,[1 2] uveitis,[3] and cytomegalovirus (CNV) retinitis.[4] The diagnosis of adult T cell leukaemia (ATL) cell infiltration in the eye is often difficult, even when characteristic ocular findings are present and cytological examinations of intraocular fluids are performed. It is well