zoledronic acid. Our case mirrored these previously reported cases with onset being between 24 and 48 h after infusion initiation, bilateral involvement, and a good response to topical steroid treatment with bisphosphonate discontinuation.

With regard to our patient, the conjunctivitis affected primarily the inferior fornix raising the possibility of an allergic response to the topical antibiotic; however, she does not have a history of atopy and has no previous exposure to chloramphenicol, making such a severe reaction unlikely to be due to the primary exposure to the ointment. There is the possibility that the inflammation may be a consequence of the primary pathology; however, there are no reports in the literature of anterior uveitis being associated with either MGUS or multiple myeloma and with the evidence detailed above regarding other bisphosphonates, we must assume that the uveitis is secondary to the treatment. It would be unethical to rechallenge the patient to see if a recurrence occurred.

Bisphosphonates are being used successfully in an increasingly broad range of disorders and with their increasing use, the ophthalmology and haematology communities should be aware of the potential ocular side effects.

References

- 1 Kyle RA, Rajkumar SV. Monoclonal gammopathies of undetermined significance: a review. *Immunol Rev* 2003; **194**: 112–139.
- 2 Mbekeoni JN, Slavovits TL, Schwartz BH, Sauer HI. Ocular inflammation associated with aledronate therapy. *Arch Ophthalmol* 1999; **117**(6): 837–838.
- 3 Malik AR, Campbell SH, Toma NM. Bilateral acute anterior uveitis after aledronate. *Br J Ophthalmol* 2002; **86**(12): 1443.
- 4 Rey J, Dammen-Legre V, Pham T, Bernard P, Dahan L, Acqaviva PC *et al.* Uveitis, an under recognised adverse effect of pamidronate. *J Bone Spine* 2000; **67**(4): 337–340.

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Sir,

The successful use of infliximab in resistant relapsing polychondritis and associated scleritis

Relapsing polychondritis is an uncommon, chronic, multisystem inflammatory disorder of cartilaginous structures. The specific cause is unknown, but it is believed that an immunologic reaction to type II collagen plays a key role. Type II collagen is present in cartilage and sclera of the eye. Patients with relapsing polychondritis have demonstrated both circulating antibodies and cellular immune reactions to type II collagen.^{1,2} Relapsing polychondritis is characterized by an episodic and progressive course affecting predominantly the ear, nose and laryngotracheobronchial tree. It often presents in an enigmatic fashion and is easily misdiagnosed. The disease can be debilitating and even life threatening. Ocular manifestations may appear in approximately 51% of cases,³ episcleritis and scleritis being the most common. Misdiagnosis of reactive arthritis or spondyloarthropathy is often made when eye and joint symptoms coexist.⁴

Case report

A 45-year-old lady has been attending the outpatient department for the past 20 years. She has a history of recurrent episodes of episcleritis, scleritis, and anterior uveitis which was controlled by topical steroids, mydriatics, and oral nonsteroidal anti-inflammatory drugs. A full systemic evaluation was carried out during the early stage revealed erosive changes of the sacroiliac joint compatible with ankylosing spondylitis in addition to being positive for HLA-B27.

She presented 3 years ago to the accident and emergency department with a painful, red swollen left outer ear and was admitted to the ENT ward. She was treated with intravenous antibiotics for possible infective perichondritis but did not respond. In addition, her right eye was red and painful, and she also complained of experiencing intermittent joint pains with swelling of the left ankle. Of importance in her medical history was a 12-year history of sudden hearing loss in her right ear of unknown cause, and she has also recently been diagnosed with hypertension.

Examination of her eyes confirmed a diffuse anterior scleritis of the right eye. After consulting with the rheumatologist and otolaryngologist, a diagnosis of relapsing polychondritis was established according to Mc Adam's criteria.⁵

Treatment with prednisolone (40 mg/day) was started and colchicine (500 µg bd) was added later to help with her joint symptoms. As her clinical condition improved, the prednisolone dose was lowered, but after 4 months she developed another episode of a diffuse scleritis with other systemic manifestations of relapsing polychondritis. Addition of methotrexate up to 10 mg once weekly failed to control her disease, which relapsed on two occasions with inflammatory polyarthritis and respiratory chondritis. In each instance it was associated with a diffuse anterior scleritis (see Figure 1), which has resulted in signs of early scleromalacia of the left eye. At this stage, she was also developing a cushingoid appearance with impaired glucose tolerance and high blood pressure because of the high steroid dose. Owing to these harmful side effects and frequent relapses she was weaned off the prednisolone and methotrexate was stopped. Cyclosporin A was considered, but as she was complaining of fatigue and her high blood pressure we decided against it.

Screening tests for active infection and latent tuberculosis were carried out followed by an induction scheme with intravenous infliximab 3 mg/kg at baseline, week 2 and 6 was then started followed by a maintenance dose every 8 weeks. After 2 weeks of treatment, her appetite had increased and her general health had improved. The scleritis resolved completely after 3 weeks and has not recurred over the past 6 months. In addition, her joint problems and laryngotracheal symptoms which she experienced before the infliximab infusion were no longer present. Up until

Figure 1 Right eye showing diffuse anterior scleritis.

her last clinic appointment (which was 6 months from the induction scheme), she remained in remission and sustained the improvement from the infliximab treatment. No adverse effect from the TNF α -blocking agent was observed.

Comment

This is the first report, to our knowledge, of the successful treatment of relapsing polychondritis associated with active scleritis with infliximab therapy. In chronic inflammatory disease much of the pathology is mediated by proinflammatory molecules that are linked in a network controlled by cytokines such as TNF α . TNF α is produced predominantly by activated macrophages. It enhances activation of T helper cells, which results in promotion of both cellular and humoral immune responses. Anti-inflammatory therapy with TNF α inhibitors has emerged as a major advancement in the treatment of various immune mediated diseases. Infliximab is a chimeric human/murine monoclonal antibody to TNF α . It neutralizes the effects of TNF α by binding to the soluble and transmembrane forms, and thus inhibits binding of TNF α with its receptors. In a randomized double-blind study by Van Den Bosch *et al*,⁶ they found that patients with active spondyloarthropathy showed significant clinical and laboratory improvements with infliximab infusions as compared to placebo. Hoang-Xuan *et al*⁷ reported on the outcome of 11 patients with relapsing polychondritis associated with active scleritis. They indicated that immunosuppressive chemotherapy is usually required to successfully treat the ocular manifestations of relapsing polychondritis, especially nodular and necrotizing scleritis.

TNF α inhibitors hold promise for patients with refractory disease. Infliximab had a profound effect on the ocular and systemic manifestations of relapsing polychondritis in our patient. It not only improves the symptoms but may also limit disease progression, and is well tolerated. The safety profile of specific TNF α inhibitors deserves consideration as recent updates have reported cases of reactivation of tuberculosis,⁸ and severe infections associated with infliximab treatment.⁹ Careful patient selection and thorough evaluation is therefore important before starting treatment with TNF α inhibitors.

References

- 1 Foidart JM, Abe S, Martin GR, Zizic TM, Barnett EU, Lawley TJ *et al*. Antibodies to type II collagen in relapsing polychondritis. *N Engl J Med* 1978; **929**: 1203–1207.
- 2 Saxne T, Heinegard D. Involvement of nonarticular cartilage, as demonstrated by release of a cartilage specific protein, in rheumatoid arthritis. *Arthritis Rheum* 1989; **32**: 1080–1086.

- 3 Michet Jr CJ, Mc Kenna CH, Luthra HS, O'Fallon WM. Relapsing polychondritis. Survival and predictive role of early disease manifestations. *Ann Intern Med* 1986; **104**: 74–78.
- 4 Trentham DE, Le CH. Relapsing polychondritis. *Ann Intern Med* 1998; **129**: 114–122.
- 5 Mc Adam LP, O'Hanlan MA, Bluestone R, Pearson CM. Relapsing polychondritis: prospective study of 23 patients and review of the literature. *Medicine* 1976; **55**: 193–215.
- 6 Van Den Bosch F, Kruithof E, Baeten D, Herssens A, de Keyser F, Mielants H *et al.* Randomized double-blind comparison of chimeric monoclonal antibody to tumor necrosis factor alpha (infliximab) versus placebo in active spondyloarthritis. *Arthritis Rheum* 2002; **46**: 755–765.
- 7 Hoang-Xuan T, Foster CS, Rice BA. Scleritis in relapsing polychondritis. Response to therapy. *Ophthalmology* 1990; **97**: 892–898.
- 8 Keane J, Gershon S, Wise RP, Mirabile-Levens E, Kasznica J *et al.* Tuberculosis associated with infliximab, a tumor necrosis factor alpha-neutralizing agent. *N Engl J Med* 2001; **345**: 1098–1104.
- 9 Kroesen S, Widmer AF, Tyndall A, Hasler P. Serious bacterial infections in patients with rheumatoid arthritis under anti-TNF alpha therapy. *Rheumatology* 2003; **42**: 617–621.

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Sir,
Horner's syndrome and sixth nerve palsy due to herpes zoster ophthalmicus arteritis

The association of sixth nerve palsy with ipsilateral third-order neuron painful Horner's syndrome has exquisite localizing value in the posterior cavernous sinus, also known as Parkinson's syndrome.¹ The syndrome has been observed mainly in aneurysms in and around the posterior cavernous sinus presenting acutely with variable pain in and around the orbit. We report for the first time MRA documented cerebral angitis with herpes zoster ophthalmicus (HZO) as a cause of ipsilateral painful Horner's syndrome with sixth nerve palsy.

Case report

A 24-year-old female patient presented to us with complaints of acute and rapidly progressive drooping of the right upper lid with moderate pain, double vision, and limitation of abduction in the right eye. This was preceded 6 weeks earlier by multiple painful vesiculobullous eruptions on the right side of the forehead and dorsum of the nose, with associated moderate-grade fever and dull ache in the right orbital region, which subsided without treatment. On presentation, the patient had hyperpigmented small deep scars in the distribution of the right frontal and nasociliary nerve, characteristic of HZO. There was no facial anhidrosis. The unaided visual acuity in both eyes was 20/20. There was a face turn to the right. Palpebral fissure width was 7.5 mm in the right eye and 9 mm in the left eye. Hertel's exophthalmometry was normal. There was a 2 mm ptosis in the right eye with good levator function. An anisocoria of 1.5 mm was present (right pupil: 2 mm, left pupil: 3.5 mm), which increased in the dark with no light near dissociation. The ocular motility is shown in Figure 1. Dry eye was noted in the right eye, proven by tear film breakup time and Schirmer's testing. Corneal sensations and blink reflex were normal. The rest of the neuro-ophthalmic examination, including colour vision, visual fields, funduscopy, and other cranial nerves, was normal.

Investigations revealed normal blood counts except the ESR, which was 70 mm in the first hour. Other tests including BP, GTT, X-ray chest, VDRL, 'C' reactive protein, Rh factor, and ANA were all negative.

Gadolinium-enhanced MR imaging and MR angiography suggestive of HZO arteritis are shown in Figure 2. The patient was started on oral steroids

Figure 1 (a) Patient showing mild right upper lid ptosis with esotropia, at presentation. (b) Patient showing severe limitation of abduction of the right eye. The forced duction test, active forced generation test, and Tensilon test were negative. (c) Same patient six weeks later showing recovery of ptosis and 6th nerve palsy.