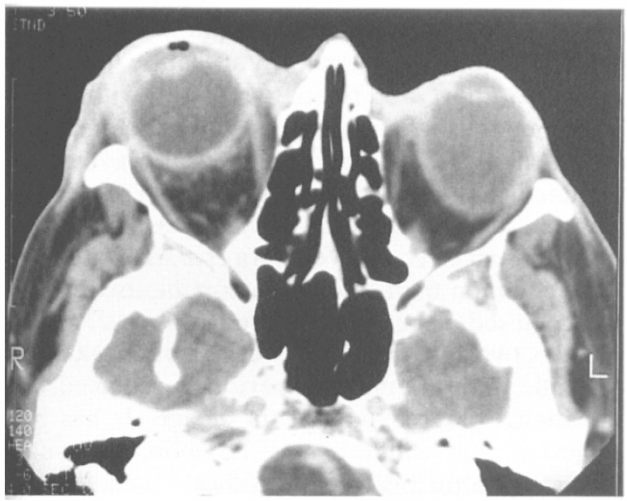

Fig. 1. *CT scan of head and orbits showing right eye proptosis and an increase in orbital soft tissue on the right side. The left eye is buphthalmic. Also evident is a gas bubble in the anterior chamber of the right eye.*

gentamicin, atropine 1% and levobunolol 0.5% drops. Under general anaesthesia, vitreous aspiration and intravitreal injection of gentamicin 0.1 mg and vancomycin 1 mg were performed. At surgery the pars plana was noted to be abnormally pale and the vitreous was turbid. Blood cultures were negative. Urine and vitreous cultures grew *E. coli* sensitive to a range of antibiotics including cefazolin, ciprofloxacin and ampicillin. The ocular condition improved after the intravitreal injections and systemic ciprofloxacin. The eye became comfortable with normal intraocular pressure, although mild corneal oedema and a 1 mm hypopyon persisted. Over the next few days a purulent discharge continued and the anterior chamber remained shallow. Intravenous ciprofloxacin was recommenced. Despite intensive treatment, a spontaneous perforation in the superotemporal limbus was noted and an evisceration was carried out 20 days after presentation. Histopathological examination showed a diffuse infiltration of all ocular layers with polymorphonuclear leucocytes. No bacteria or fungi were identified.

Discussion

Endophthalmitis due to *E. coli* is being increasingly reported.[1] Before 1980 only 6 cases (2 of which were bilateral) were reported. Since then there have been reports of at least 13 cases (2 bilateral), including our case.[1–5] More significantly, in a 10 year retrospective study Okada *et al.*[1] reported that in 5 of 28 cases (17.8%) the aetiological agent was *E. coli*, making it the third commonest organism to be identified in the study.[1]

Patients with endogenous *E. coli* endophthalmitis have certain common features: they are usually diabetic and the urinary tract is the most frequent source of infection. The other reported sources are conjunctiva and gall bladder.[4] *E. coli* endophthalmitis has a rapid, devastating course, with an almost universally poor prognosis. Of the 4 bilateral and 14 unilateral cases, only 7 eyes were saved, despite intensive therapy. One eye achieved a visual acuity of 20/50, while the other salvaged eyes had visual acuities no better than hand movements or perception of light.[1–5]

E. coli endophthalmitis is a serious, sight-threatening condition which needs to be recognised early in its course and treated aggressively. Diabetic patients with urinary tract infections seem to be particularly susceptible. The condition is rapidly progressive and destruction of ocular tissues with spread to the orbit and cavernous sinus can occur.

N. Anand

Bradford Royal Infirmary
Bradford
UK

Paul Brogden
M. J. Menage

Leeds General Infirmary
Leeds
UK

Correspondence to:
N. Anand
c/o Dr R. J. Simmons
100 Charles River Plaza
Boston
MA 02114
USA

References

1. Okada AA, Johnson PR, Conrad Liles W, D'Amico DJ, Baker AS. Endogenous bacterial endophthalmitis. Ophthalmology 1994;101:832–8.
2. Fanning WL, Stubbert J, Irwin ES, Aronson MD. A case of bilateral *E. coli* endophthalmitis. Am J Med 1976;61:295–7.
3. Cordido M, Fernandez-Vigo J, Cordido F, Diaz Rey A. Bilateral endophthalmitis in diabetics. Acta Ophthalmol (Copenh) 1991;69:266–7.
4. Park SB, Steven SS, Aquavella ES, Erdey RA. Endogenous endophthalmitis caused by *E. coli*. Ann Ophthalmol 1993;25:95–9.
5. Seikomoto M, Hayasaka S, Setogawa T, Shigeno K. Endogenous *E. coli* endophthalmitis in a patient with autosomal-dominant polycystic kidney disease. Ann Ophthalmol 1993;23:458–9.

Sir,

A Conjunctival Synthetic Fibre Granuloma in a Child

We report the case of a patient who was found to have an asymptomatic dark conjunctival lesion in the inferior conjunctival fornix. Histopathological exam-

ination revealed this to be due to a foreign body giant cell granulomatous reaction to fibre material impacted in the subconjunctival space. We have found only seven cases of synthetic fibre granulomas in the literature. One should be suspicious of impacted foreign material in evaluating a pigmented conjunctival lesion, especially in children, as these can present in a variety of ways and a history is usually not forthcoming.

Case Report

A 13-year-old girl was referred for an ophthalmological opinion after having found an asymptomatic dark lesion in her lower conjunctival fornix. A venous abnormality or a melanocytic lesion was suspected. On naked eye examination there was a pigmented lesion at the junction between the bulbar and inferior forniceal conjunctiva measuring 3 mm × 4 mm (Fig. 1). On slit lamp examination, however, there was normal-looking conjunctiva overlying what looked to be a meshwork of intertwined blue filaments superficial to the sclera. The lesion was excised and histopathological examination revealed a foreign body giant cell granulomatous inflammation reacting to birefringent pale blue foreign fibre material (Fig. 2). The microscopic characteristics of the fibre material suggested that it was a synthetic fibre as described by Weinberg *et al.*[1] No information could be elicited from the patient or her parents as to the likely source of the implanted material, except for a history of having collided with a basket containing laundry as a 10-month-old baby, when stitches were necessary for a laceration on the bridge of the nose.

Discussion

Conjunctival foreign body granulomas are uncommon lesions. Earlier reports of such lesions were found to be caused by caterpillar hairs,[2] first described by Schoen in 1861 as conjunctivitis nodosa, insect parts[3] and grass seeds.[4] More recent reports describe foreign body granulomatous reactions to synthetic fibres presumably of fabric origin.[1,5,6] Another report described two cases with similar granulomatous inflammatory reactions to embedded cotton fibres.[7] As only a handful of cases of conjunctival synthetic fibre granuloma have been reported, the incidence of this lesion is unknown. It has been suggested by Weinberg *et al.*[1] that it may be more common than originally thought, as it may go unrecognised or be misdiagnosed.

Only two of the seven cases of conjunctival synthetic fibre granuloma previously reported were in patients older than 8 years of age. It has been suggested that children may be more tolerant of ocular irritation by foreign bodies[1,2] and that this meshwork of fibres, because of their compressibility and lack of sharp surfaces, are less irritative and quickly become encased in mucus, further decreasing their irritative potential.[1] It is, however, interesting to note that the implanted material in the recently reported cases of conjunctival granuloma are presumably of fabric origin rather than of plant and insect origin. This probably reflects the change in children's play environment (more time being spent indoors) and the material used in their toys. It could be suggested that conjunctival foreign body granulomas found in children now are more likely to be caused by synthetic fibres than caterpillar hairs and grass seeds.

Of the seven described cases of conjunctival synthetic fibre granulomas, five presented with a mass lesion, although all were found on examination to have a conjunctival mass lesion.[1,5,6] The mass lesion ranges from pinkish to green and blue-black in colour. The other two cases presented with foreign body sensation and a white discharge respectively. Symptoms when present were all of at least a few weeks' duration, and in all but one case the inferior conjunctival fornix was involved. Thus, conjunctival

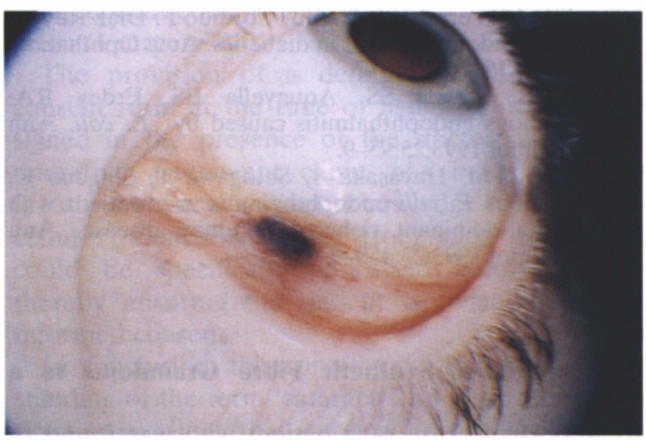

Fig. 1. *Clinical photograph of the pigmented lesion in the inferior conjunctival fornix.*

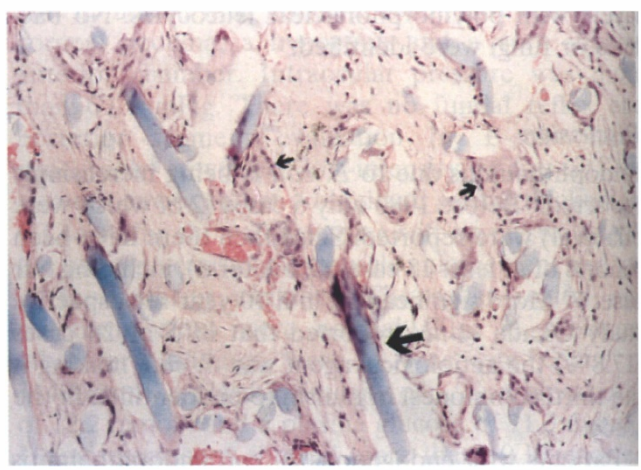

Fig. 2. *Photomicrograph (× 186) of a histological section through the lesion showing foreign body giant cells (small arrows) reacting to blue synthetic fibre (large arrow).*

synthetic fibre granuloma should be included in the differential diagnosis of children presenting with or found to have a conjunctival mass or 'pigmented' lesion, 'peculiar' discharge and, of course, presumed conjunctivitis nodosa.

Y. F. Yang
C. R. H. James
Department of Ophthalmology
Torbay Hospital
Torquay TQ2 7AA
UK

Correspondence to:
Y. F. Yang
Moorfields Eye Hospital
City Road
London EC1V 2PD
UK

References

1. Weinberg JC, Eagle RC, Font RL, Streeten BW, Hidayat A, Morris DA. Conjunctival synthetic fiber granuloma. Ophthalmology 1984;91:867–72.
2. Watson PG, Sevel D. Ophthalmia nodosa. Br J Ophthalmol 1966;50:209–17.
3. Hered RW, Spaulding AG, Sanitato JJ, Wander AH. Ophthalmia nodosa caused by tarantula hairs. Ophthalmology 1988;95:166–9.
4. Roy FH, Hanna C. Foreign body granuloma of the conjunctiva. Ann Ophthalmol 1978;10:1361–2.
5. Resnick SC, Schainker BA, Ortiz JM. Conjunctival synthetic and nonsynthetic fiber granulomas. Cornea 1991;10:59–62.
6. Shields JA, Augsburger JJ, Stechschulte J, Repka M. Synthetic fiber granuloma of the conjunctiva. Am J Ophthalmol 1985;99:598–600.
7. Ainbinder DJ, O'Neill KP, Yagci A, Karcioglu ZA. Conjunctival mass formation with unexpected foreign body. Pediatr Ophthalmol Strabismus 1991;28:176–7.

Sir,

Vortex Keratopathy Associated with Ibuprofen Therapy

Ibuprofen is a non-steroidal anti-inflammatory drug used in various rheumatological disorders for its analgesic and anti-inflammatory properties. We present a case of vortex keratopathy (cornea verticillata) occurring during treatment with ibuprofen, an association which has not, to the best of our knowledge, been recognised previously.

Case Report

A 62-year-old woman presented to the eye casualty department in 1995 with a 4 week history of bilateral visual disturbance consisting of haze and coloured haloes. She was previously on no medication and her symptoms had started within days of commencing treatment with oral ibuprofen, 400 mg three times daily, prescribed for a minor neck injury. She was otherwise well with no significant past medical history.

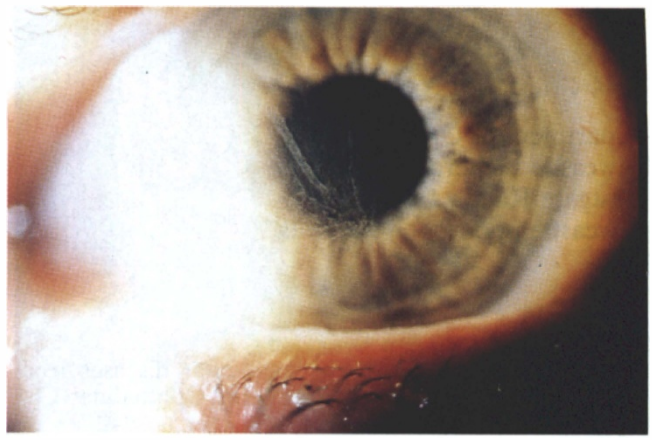

Fig. 1. *Typical vortex keratopathy at time of presentation.*

Examination revealed a typical, bilateral, symmetrical vortex keratopathy (Fig. 1). Her visual acuities were 6/5 in both eyes and ocular examination was otherwise unremarkable. It was assumed that the corneal changes were associated with her drug therapy, which she therefore stopped immediately. On review 3 weeks later, both her symptoms and signs had resolved entirely.

Discussion

Vortex keratopathy (cornea verticillata) consists of a whorled arrangement of intracellular deposits in the corneal epithelium. It occurs classically in patients on amiodarone and in Fabry's disease, but has also been reported in association with phenothiazines, antimalarials and the non-steroidal anti-inflammatory drugs indomethacin and naproxen.[1,2]

Various theories have been offered to account for the striking appearance. Recent evidence suggests that the pattern reflects normal epithelial cell migration which occurs both centripetally from and circumferentially at the limbus.[3] It has also been postulated that the path taken may be influenced by local factors such as the architecture of Bowman's membrane[4] and electromagnetic fields in the eye.[5] The nature of the deposits remains unclear, although the identical appearance of the keratopathy in Fabry's disease suggests that they may represent drug-induced sphingolipidoses.[6]

Conclusion

Two non-steroidal anti-inflammatory drugs have previously been implicated in iatrogenic vortex keratopathy, and ibuprofen would appear to be a third. Although rarely significant, it should be borne in mind when patients on similar treatments complain of visual disturbance.