CHRONIC TOXOCARAL ENDOPHTHALMITIS*† SUCCESSFUL TREATMENT OF A CASE WITH SUB-CONJUNCTIVAL DEPOT CORTICOSTEROIDS

BY

JOHN NOLAN

Edinburgh

TOXOCARIASIS retinae presents in two main ways: as a granuloma or as a chronic endophthalmitis. Duguid (1961a, b) postulated an analogy to tuberculosis, the granuloma occurring in previously infected patients with low tissue sensitivity and high resistance, and the endophthalmitis occurring in patients with low resistance and high sensitivity. Various intermediate stages between these two classical pictures are also observed. It appears from the series of Duguid (1961a, b) and Perkins (1966) that chronic endophthalmitis is the more common mode of presentation and is characterized by dense vitreous opacities, often completely obscuring the fundus but sometimes with a non-pigmented whitish mass visible at the periphery. The condition occurs unilaterally, is rare in adults, and there is a history of contact with dogs. Perkins (1966) analysed 150 cases of childhood uveitis and found toxocariasis to be the second commonest cause, being the presumed agent in fifteen cases.

The diagnosis in suspected *Toxocara* is strengthened by the presence of eosinophilia and by positive skin and serological tests including an anti-blood group A titre of over 1 : 1,000. However, eosinophilia is not always present, the skin tests have not yet been shown to be specific, and the serological tests are not yet reliable (Perkins, 1966). Other nematodes can occasionally cause the same clinical picture (Unsworth, Fox, Rosenthal, and Shelton, 1965). Recently, Hutchison (1966) has shown that the *Toxocara* can carry and transmit *Toxoplasma gondii*, and from this it follows that there could be a high toxoplasma antibody titre in cases of toxocariasis, the two diseases co-existing.

The treatment of toxocaral endophthalmitis in the advanced stage is difficult (Duke-Elder, 1966), the disease commonly resulting in total detachment of the retina with cyclitic membrane and subsequent shrinkage of the eye or secondary glaucoma.

Case Report

A 13-year-old white girl presented with a 2 months' history of spots in front of the right eye.

Examination.—The visual acuity was 6/24 in the right eye. The cornea was clear, the anterior chamber completely quiet, and the pupil active. There was a dense vitreous haze but the fundus periphery could just be seen and a whitish lesion was vaguely discernible at 6 o'clock. The left eye was completely normal and the visual acuity 6/6. The patient had kept two dogs until 12 months previously. The haemoglobin, erythrocyte sedimentation rate, and chest x-ray were all normal, and the Wassermann reaction was negative. However, a full blood count showed 6 per cent. monocytes and 5 per cent. eosinophils in a total of 6,200 WBC/c.mm. The toxoplasma dye test was positive at 1 : 256. The Mantoux was negative at 1 : 100.

Progress.—Over the next month the fundus haze increased in density and a tentative diagnosis of toxoplasmic choroiditis was made.

* Received for publication March 1, 1967.

† Address for reprints: Eye Department, Royal Infirmary, Edinburgh 3.

Treatment.—Systemic prednisolone 40 mg. daily in divided doses and spiramycin 500 mg. 6-hourly were started. After a further month there was but slight clearing of the vitreous. The systemic steroids were gradually reduced and at the end of another month the visual acuity had improved to 6/18.

It was now possible to see that the peripheral lesion was not the site of the main haze and that there was no pigmentation in its vicinity, but that it was a definitely raised, oval-shaped, white mass about 2×1 disc diameters in size. The diagnosis was therefore changed to toxocariasis retinae and in view of the slight effect of the previous treatment, the systemic prednisolone and spiramycin were discontinued.

One month later the picture was unchanged. The full blood count now showed 14 per cent. monocytes and 6 per cent. eosinophils in a count of 7,300 WBC/c.mm. The anti-A titre was within normal limits, however.

Further Treatment.—As a last resort, it was decided to try subconjunctival injections of depôt corticosteroids and 50 mg. depomedrone were given initially. One month later there had been a dramatic clearance of the vitreous haze and the visual acuity had improved to 6/9. The injections were repeated at monthly intervals and the vitreous continued to clear steadily until after six injections the visual acuity was 6/6 and the vitreous clear except for a slight hazy patch at the nasal equator.

Result.—The patient has now been followed up for a further 4 months, and the visual acuity is 6/5 partly. There is still a slight patch of vitreous haze at the nasal equator, but this is diminishing. The white lesion at 6 o'clock has diminished in size to about one disc diameter, and is not pigmented.

Discussion

No reference has been found in the literature to the use of subconjunctival injections of depot corticosteroids in the treatment of toxocaral endophthalmitis. Ashton (1960) stressed that the only certain method of diagnosis in toxocariasis is by histological identification of the nematode, but the clinical picture in the case described makes a diagnosis of toxocara the most probably correct one, and the excellent and unexpected response to the treatment described would seem to justify its further trial in similar cases.

Summary

A case of chronic toxocaral endophthalmitis, diagnosed on clinical grounds, was successfully treated by subconjunctival injections of depot corticosteroids repeated at monthly intervals for 6 months.

I should like to thank Mr. I. M. Duguid for his helpful comments on this case.

REFERENCES

- ASHTON, N. (1960). *Brit. J. Ophthalm.*, **44**, 129.
DUGUID, I. M. (1961). *Ibid.*, **45**, 705, 789.
DUKE-ELDER, S. (1966). "A System of Ophthalmology", vol. 9, pp. 464–470. Kimpton, London.
HUTCHISON, W. M. (1966). *Trans. ophthalm. Soc. U.K.*, **86**, 185.
PERKINS, E. S. (1966). *Brit. J. Ophthalm.*, **50**, 169.
UNSWORTH, A. C., FOX, J. C., ROSENTHAL, E., and SHELTON, P. A. (1965). *Amer. J. Ophthalm.*, **60**, 127.

ADDENDUM

After this article had been printed, the patient attended for a further 3 months. There was a moderate attack of right panuveitis in this period, which settled with a further subconjunctival injection of depomedrone. She failed to keep any further appointments. When last seen the visual acuity in the affected eye was 6/5.

Treatment.—Systemic prednisolone 40 mg. daily in divided doses and spiramycin 500 mg. 6-hourly were started. After a further month there was but slight clearing of the vitreous. The systemic steroids were gradually reduced and at the end of another month the visual acuity had improved to 6/18.

It was now possible to see that the peripheral lesion was not the site of the main haze and that there was no pigmentation in its vicinity, but that it was a definitely raised, oval-shaped, white mass about 2×1 disc diameters in size. The diagnosis was therefore changed to toxocariasis retinae and in view of the slight effect of the previous treatment, the systemic prednisolone and spiramycin were discontinued.

One month later the picture was unchanged. The full blood count now showed 14 per cent. monocytes and 6 per cent. eosinophils in a count of 7,300 WBC/c.mm. The anti-A titre was within normal limits, however.

Further Treatment.—As a last resort, it was decided to try subconjunctival injections of depôt corticosteroids and 50 mg. depomedrone were given initially. One month later there had been a dramatic clearance of the vitreous haze and the visual acuity had improved to 6/9. The injections were repeated at monthly intervals and the vitreous continued to clear steadily until after six injections the visual acuity was 6/6 and the vitreous clear except for a slight hazy patch at the nasal equator.

Result.—The patient has now been followed up for a further 4 months, and the visual acuity is 6/5 partly. There is still a slight patch of vitreous haze at the nasal equator, but this is diminishing. The white lesion at 6 o'clock has diminished in size to about one disc diameter, and is not pigmented.

Discussion

No reference has been found in the literature to the use of subconjunctival injections of depot corticosteroids in the treatment of toxocaral endophthalmitis. Ashton (1960) stressed that the only certain method of diagnosis in toxocariasis is by histological identification of the nematode, but the clinical picture in the case described makes a diagnosis of toxocara the most probably correct one, and the excellent and unexpected response to the treatment described would seem to justify its further trial in similar cases.

Summary

A case of chronic toxocaral endophthalmitis, diagnosed on clinical grounds, was successfully treated by subconjunctival injections of depot corticosteroids repeated at monthly intervals for 6 months.

I should like to thank Mr. I. M. Duguid for his helpful comments on this case.

REFERENCES

- ASHTON, N. (1960). *Brit. J. Ophthalm.*, **44**, 129.
DUGUID, I. M. (1961). *Ibid.*, **45**, 705, 789.
DUKE-ELDER, S. (1966). "A System of Ophthalmology", vol. 9, pp. 464–470. Kimpton, London.
HUTCHISON, W. M. (1966). *Trans. ophthalm. Soc. U.K.*, **86**, 185.
PERKINS, E. S. (1966). *Brit. J. Ophthalm.*, **50**, 169.
UNSWORTH, A. C., FOX, J. C., ROSENTHAL, E., and SHELTON, P. A. (1965). *Amer. J. Ophthalm.*, **60**, 127.

ADDENDUM

After this article had been printed, the patient attended for a further 3 months. There was a moderate attack of right panuveitis in this period, which settled with a further subconjunctival injection of depomedrone. She failed to keep any further appointments. When last seen the visual acuity in the affected eye was 6/5.