A CASE OF ONCHOCERCIASIS IN LONDON AND ITS TREATMENT WITH HETRAZAN*

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ONCHOCERCIASIS is a disease frequently overlooked in endemic areas and this case is a reminder that the diagnosis should be considered even in England when ophthalmic lesions of obscure aetiology are found in patients who have visited Central Africa or Central America. It also shows the importance of repeating laboratory investigations in suspected cases, and draws attention to recent advances in chemotherapy.

It will be recalled that onchocerciasis is a disease caused by infection with the microfilariae of a threadworm, *Onchocerca volvulus*. These enter most parts of the eye, particularly the cornea, the uveal tract, and the optic nerve, leading to blindness from corneal opacities, complicated cataract, choroido-retinal degeneration, and optic atrophy. The adult worms are generally found in subcutaneous nodules. Infection is carried by a fly, *Simulium*, which breeds in running water.

A medical colleague told us that his brother, aged 35, a District Officer home on regular leave from Northern Nigeria, had for two months complained of a pricking sensation in the eyes, and of photophobia, and had been found to have a number of punctate opacities in both cornea, the cause of which was obscure. There was also a history of transient attacks of irritable oedema in the limbs. The possibility of onchocerciasis was considered and the patient was brought to St. Thomas' Hospital.

He was found to have slight conjunctival injection without discharge, and photophobia severe enough to make slit-lamp examination difficult. Though the visual acuity of each eye was 6/5, both cornea contained about 20 nummular opacities, 0.5 to 1 mm. in diameter, scattered diffusely in the superficial substantia propria. These plaques were not most numerous in the nasal interpalpebral area, as generally happens in onchocerciasis, and no dead microfilariae were seen within them. Nor on any occasion were living microfilariae seen in the anterior chambers. Thorough examination failed to reveal any onchocercal nodules.

A 4 per cent. cocaine drop instilled into the conjunctival sac appeared to cause undue irritation, and a fragment of bulbar conjunctiva about 3 mm. in diameter was excised from the left

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eye. This specimen was unfortunately not examined microscopically before fixation, so that the opportunity of finding living worms was missed. Numerous coiled bodies suggestive of dead worms were seen, but no one was convinced that these were indubitably microfilariae, especially when a similar conjunctival snip taken from the other eye proved negative. The next two snips from each eye were also free from microfilariae, as were several skin snips taken at random because no suggestive nodules were found. Centrifuged specimens of blood taken at midday and midnight contained no microfilariae, but an eosinophilia of 24 per cent. was present. The patient returned for further examination one week later, and two more conjunctival snips were taken immediately after the instillation of one drop of cocaine. It was thought that the excessive irritation caused by cocaine might be due to live microfilariae escaping from the drug, for it is known that the adult loa loa retreats into the orbit when the conjunctiva is anaesthetized. The specimens were placed in a drop of normal saline and examined immediately; one living microfilaria was seen which when stained proved to be *Microfilaria volvulus*, thereby establishing the diagnosis.

Until recently no treatment other than excision of nodules has had any real value in the eradication of adult worms and microfilariae. Animal experiments have shown that antimony preparations such as stibophen are filaricidal only in doses toxic to the host. Recently Hewitt and others (1947) have reported on the use of hetrazan in filarial infections. This drug, which appears to be of very low toxicity to man, is microfilaricidal, but has little effect on adult worms. It is especially active against *Mf. volvulus* and *bancrofti*. In an infected person, however, the first doses usually produce considerable reaction which is presumably due to sudden death of numerous microfilariae.

It was decided to try hetrazan hydrochloride in this case, but because many authors report brisk reactions with oedema and irritation of the skin, and stress the need for caution where the eyes are involved, it was decided to give an antihistamine drug before starting hetrazan, and to begin with small doses rapidly increasing to the maximum after observation of effects.

The treatment was given as follows:

25.4.50.	} 50 mg. phenergan 4-hourly.
26.4.50.	
27.4.50.	phenergan as above + 12.5 mg. hetrazan hydrochloride.
28.4.50.	12.5 mg. phenergan + 25 mg. hetrazan hydrochloride.
29.4.50.	phenergan + 100 mg. hetrazan hydrochloride.
30.4.50.	phenergan + 50 mg. hetrazan hydrochloride.
1.5.50.	phenergan + 100 mg. hetrazan hydrochloride.
2.5.50.	150 mg. hetrazan hydrochloride three times. This dose was continued for a total period of ten weeks.

Increased oedema, a small papular urticarial eruption, oedema of the arms, legs, and face, and increased photophobia together with fever up to 100° F. were noted. No lung-field changes at the height of this reaction were found in the x rays, and the eosinophilia in the blood remained constant (3,360 per c. mm.—24 per cent. of 14,000 white blood corpuscles). This reaction subsided in 8 days. The results achieved appeared to be satisfactory one month from the start of therapy, and the patient thought himself normal. The eyes were no longer injected and irritable, but the corneal opacities were still present. It was thought desirable and safe to continue with hetrazan hydrochloride 150 mg. three times a day for a total period of 10 weeks.

Proof of cure could not be obtained in this case by skin snippings after treatment, because these were negative for microfilariae throughout. It is suggested that a trial course of hetrazan hydrochloride 3 months after the end of the present course may establish persistence of the disease or cure, by producing or failing to produce a similar reaction to that described here.

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