Editorial: Onchocerciasis—out of the oubliette

If ever a major eye disease has been too long ignored by the ophthalmic profession, that disease must surely be onchocerciasis. The overwhelming majority of ophthalmologists, including those in the tropics, regard it as a curiosity of natural history—interesting perhaps, but not something to interfere with a busy, demanding, and usually lucrative urban practice.

At most there can be no more than 30 ophthalmologists alive today who have any significant practical experience of ocular onchocerciasis. Yet this tropical eye disease can produce the highest blindness rates in the world, ranging up to 15% of the community in some West African savanna villages. The profession should begin to think again about the 20 to 40 million underprivileged persons, living in remote parts of the African bush or in Latin America, who are infected with *Onchocerca volvulus*. Two hundred and fifty thousand of them are even now afflicted with river blindness; a like number, though not economically blind, are suffering from severe visual handicap; and a further 500 000 among the rising generation are threatened with the same fate in years to come.

Along with trachoma, xerophthalmia, and cataract, onchocerciasis is one of the great blinding diseases in the tropics. But, whereas relatively simple and effective means are already available to prevent or cure the first 3, the prevention of ocular onchocerciasis has scarcely been explored, is still very far from satisfactory, and demands much further research.

True, the transmission of *O. volvulus* may be interrupted by efficient larviciding to control its insect vector (*Simulium* spp.), as is now being done in the Onchocerciasis Control Programme in the Volta River Basin; and if this can be maintained for 15 to 20 years despite its great cost ocular onchocerciasis may be expected to disappear slowly from the controlled zone. But how are we to treat those patients whose eyes are already heavily parasitised by microfilariae and whose sight is threatened? Definite treatment, using the accepted diethylcarbamazine citrate (DEC) as a microfilaricide, and suramin as a macrofilaricide, is not without danger to the patient. It requires his attendance for some 3 months under medical supervision, and at the end of this time, unless he is living in a *Simulium* control zone, he will then immediately be exposed to re-infection.

With so complex a course of treatment it is impossible to treat everyone, and this raises a second problem. Among the mass of infected persons how are we to recognise those particular individuals who are at high risk of blindness, and recognise them in time for treatment to be effectively preventive? It is indeed encouraging to see in this number of the British Journal of Ophthalmology no fewer than 6 papers on ocular aspects of onchocerciasis. Research has begun; progress is being made; the next steps are becoming apparent.

Thylefors and Tønjum emphasise the importance of optic nerve disease as a cause of visual field reduction and severe visual handicap in onchocerciasis; and, in a second paper, Tønjum and Thylefors describe the distribution of microfilariae in the cornea and relate this to the lesions of sclerosing keratitis.

On the difficult subject of treatment, Anderson and Fuglsang re-emphasise the potential importance of removing head nodules, but they point out that, in Africa at least, by the time a nodule can be palpated the damage to the eye has often already been done. One is led to ask whether we cannot find a way to locate and remove adult worms that lie fixed in the head or near the eye before they have formed palpable nodules and before their microfilariae have damaged the eye.

Highly important is the observation of Anderson and Fuglsang that in heavily infected patients treatment with suramin to kill adult *O. volvulus* is much better tolerated if the main load of microfilariae has previously been removed with DEC. Also on chemotherapy, Barrie Jones and colleagues show that the microfilaricidal actions of drugs (DEC, levamisole, and mebendazole), and any associated inflammatory reactions, can be assessed by direct observation of the parasites in the limbus and cornea after instillation of the drug. They suggest that continuous non-pulsed delivery of DEC at a critical low dosage may succeed in killing the microfilariae without exciting inflammatory reactions dangerous to the host; and they discuss novel ways of achieving such delivery.

It is apparent from these papers that the preventive treatment of ocular onchocerciasis presents one of the biggest challenges in ophthalmology today. But let no one take it up who is not dedicated to the relief of human suffering, stimulated by the fascinating scientific research that will be needed to solve the many problems, and prepared to work in remote places under the most trying conditions. Is it too much to hope that some of the younger bloods in ophthalmology may, after reading this number, be inspired to take up the search for effective treatment?