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Editorial: Onchocerciasis

More than 3000 publications on the subject of onchocerciasis testify to its importance and complexity. O'Neill (1875) fired the opening shot, when he linked the presence of skin microfilariae with the chronic skin disease 'craw-craw' on the Gold Coast. Leuckart (1891) connected the microfilariae with the adult worms in skin tumours (onchocercomata) excised from West Africans, although at that time no connexion was made between the skin disease and eye troubles. Across the Atlantic in Mexico and Guatemala, however, attention in the early 1900s began to be focused on a chronic skin disease associated with blindness called 'erisipela de la costa'. Robles (1917, 1919), a Guatemalan physician, related this to *O. volvulus,* while his ophthalmic colleague Pacheco-Luna (1918, 1919) connected the onchocercomata and the microfilariae to the blinding kerato-iridocyclitis, so characteristic of the Central American form of the disease that Brumpt (1919) called it *O. caecutiens.* Some 15–18 years later Hissette (1932) in the Belgian Congo and Bryant (1935) in the Sudan recognized that the African and Central American diseases were the same—but are they? Is onchocerciasis a disease of multicentric origin, or was it imported from Africa together with the slaves and the soldiers, beginning with Cortes in 1519 and ending with Maximilian in 1867? (Torroella, 1964).

The next major difficulty is to assess the importance of onchocerciasis as a public health problem. Undoubtedly it is very widespread, probably involving 30–50 million persons in equatorial Africa, 250 000 in Central America, and a few thousand expatriates in whom the adult worms are living out their life-span of 15 years or so, probably producing one million microfilariae annually for most of this period. Perennial and heavy infection transforms the ocular situation from a benign parasitosis to a blinding disease, principally in those who are over 40 years of age. In some villages in the Sudan-savanna regions the blindness rate may be 34 per cent (Anderson, Fuglsang, Hamilton, and Marshall, 1974). A median figure for all those millions of people infected who end up blind would be around 2 per cent or one million in Africa, 5000 in Central America, and none among the expatriates—who should be made clearly aware that a diagnosis of onchocerciasis does not sentence them to visual impairment, but only to a chronic pruritic skin complaint.

Among the scientific problems still unsolved are: why are there such marked variations in the behaviour of the disease, even between the rain forest and savanna regions of Africa, and between them and the Central American foci and also the Yemen? Are all the foci known? Both animal onchocerciasis and various species of *Simuliidae* are widely distributed over the globe, and transfer to humans may have occurred elsewhere. While the pathogenesis of the blinding kerato-iridocyclitis is fairly well understood the portals of entry of the microfilariae to the eye need further study, as do the aetiology and significance of the fundus lesions. In this issue there is an interesting study of this matter, and the authors (Bird, Anderson, and Fuglsang, 1976) are to be congratulated on taking fluorescein angiography into the African bush as part of their project.

Infestation of the anterior segment by hordes of microfilariae would be expected to interfere with intraocular fluid dynamics, but it is only from Liberia that a high incidence of chronic open-angle glaucoma in onchocercal as opposed to non-onchocercal subjects has been reported, by Neumann and Zauberman (1965), and confirmed by Langham, Frentzel-Beyme, and Zolu-Dumah Traub (1975).

What to do about onchocerciasis as a public health matter is clearly of critical importance and one hopes that the World Health Organization, in its proposal to spray insecticides from the air on the most affected areas in West Africa, for which it has a $40 million grant from the World Bank to help, is making the right decision. Further research not only into the disease process, but also into such therapeutic possibilities as slow-release diethylcarbamazine, might usefully be put in train contemporaneously.

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