Editorial: Blindness in leprosy

'Blindness in the individual who has normal skin sensitivity is enough of a handicap, but in the one who has lost that faculty it is disastrous. Few have the resources, material, mental or spiritual, to live with it.' Margaret Brand's short statement in her pamphlet on the care of the eye in leprosy sums up the plight of the leprosy patient with failing vision; for despite major advances in recent years in the understanding of the pathology and treatment of leprosy, ocular complications still pose the greatest single threat to patients who have a disease which is disfiguring, humilitating, relentless in its course, and yet rarely fatal on its own.

Estimations of the number of leprosy sufferers in the world have always been difficult, since the official figures take no account of the many affected individuals who for some reason or other do not seek attention and remain outside medical and paramedical supervision. The Federation of Anti-Leprosy Associations (ILEP) have registered over 4 million patients, but a recent WHO report suggests that revised estimates from some of the larger countries indicate that the numbers may well exceed 12 million if we include the potentially large reservoir believed to exist in China and its dependants, from which information is scarce, and a figure as high as 15 million has been quoted.

The incidence of ocular complications and blindness is even more difficult to determine. Information from affected populations is often unreliable because of inadequate examining facilities and documentation. Leprosy workers may have had little formal ophthalmic training, and the remote location of many of the treatment centres means that few trained ophthalmologists have the opportunity to examine and report on the cases. In addition there are wide regional and racial differences which affect the type of leprosy that is contracted and therefore influence its ocular manifestations, and in many parts of the world leprosy may just be one of a variety of endemic conditions that can cause blindness. These include trachoma and onchocerciasis.

There is little doubt that the lepromatous form of leprosy is responsible for the major ocular complications, either in the form of chronic iritis, described by Weekeroon as the 'cause par excellence of blindness', or from the effects of facial and trigeminal nerve palsies. Indeed Harley considered that 'given enough time all patients with lepromatous leprosy will develop ocular complications'. Tuberculoid and borderline leprosy also cause ocular damage through their effects on the facial and trigeminal nerves, and all forms of the disease may develop acute iritis with complications, but it is the lepromatous patient that is most likely to have long-term visual problems which can culminate in blindness.

Lepromatous leprosy is commoner in temperate climates and seems to occur more in Asian, South American, and European races rather than in Africa, with an equal balance in the Indian subcontinent. In consequence the main ocular problems are to be expected in the Far East, South America, and the more northerly parts of India and Nepal. From information gained from various ophthalmic surveys in different parts of the world and relating it to the global distribution of registered leprosy patients it is possible to arrive at some sort of estimate of the number of blind leprosy sufferers, and the figures suggest that there could be as many as 500 000 to 750 000.

Analysis of the ocular complications of leprosy shows that the disease almost exclusively affects the anterior segment, and this implies that many of these complications are amenable to therapy and probably preventable. The work of the unit in Carville and many other centres in the training of eye care and hygiene in leprosy, with particular reference to lid problems, has greatly improved the visual prognosis in patients with facial and trigeminal nerve involvement. There remains, however, the major problem of chronic iritis, which seems to develop early and silently in many lepromatous patients and continues relentlessly, resisting conventional therapy, to produce severe ocular damage.

The suggestion made by T. J. ffytche in a paper in this issue that this chronic iritis has a neuroparalytic origin raises many fundamental and therapeutic questions, which it is to be hoped will stimulate further clinical and experimental research. The idea has been hinted at before and there is much accumulated clinical and pathological evidence to support it. The development of the 9-banded armadillo as an experimental model for lepromatous leprosy has already increased our knowledge of ocular pathology in this disease and will contribute greatly to further research into the pathogenesis.

The problems of treatment, however, will remain as substantial as ever. The vast number of affected patients, their scattered disposition in the different
communities, and in many cases their suspicions of therapy and their natural reluctance to continue on treatment indefinitely, together with the logistic problems of health care and supervision, still raise major difficulties for leprosy workers. The situation was summarised succinctly by Duke-Elder\textsuperscript{10}: ‘Since the uveal complications are late in appearing, however, there is no theoretical reason why they should not be prevented if only it were practicable to treat at an early stage the 3 000 000 people who were suffering from the disease’.

References
