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XIV International Leprosy Congress Orlando, Florida, USA 29 August–4 September 1993

Editorial

The XIV International Leprosy Congress was organized under the sponsorship of the International Leprosy Association, in collaboration with the International Federation of Antileprosy Associations and the World Health Organization, and was held in the Buena Vista Palace Hotel, Orlando, Florida, USA from 29 August to 4 September. Presentations to the Congress consisted of state-of-the-art lectures, oral and poster presentations of original papers and a variety of exhibitions. In addition, the Congress presented an extensive short course teaching programme consisting of 20 courses on such diverse topics as communication skills for health workers, vocational rehabilitation, the cellular immunology of leprosy and PC Basic. These courses were extremely well attended, frequently being oversubscribed, and were a very successful addition to the Congress programme.

The state-of-the-art lectures covered 'The microbiology of *Mycobacterium leprae*' (Dr S. Cole, France, and Dr P. Brennan, USA); 'Immunology: lessons from and for leprosy' (Dr T. Ottenhoff, the Netherlands); 'Chemotherapy' (Dr J. Grosset, France); 'The elimination of leprosy' (Dr S. K. Noordeen, Switzerland); 'Not by chemotherapy alone' (Dr H. Srinivasan, India); and 'Sustainability and cost-effectiveness of leprosy control under low prevalence conditions' (Dr P. Feenstra, the Netherlands). Drs Brennan and Cole reviewed the amazing progress that has been made in recent years on our understanding of the structural chemistry and genetic organisation of *M. leprae*, while Dr Ottenhoff led us on a tour through the immune system, pointing out the conflict between its role in protection against disease on one hand, and its involvement in pathological mechanisms on the other. Dr Noordeen outlined the progress made to-date with the implementation of MDT, explained the basis of WHO's elimination target and detailed the resources required to ensure that these targets were achieved. Professor Grosset explained the rationale for the MDT regimen design, and the position with regard to the development of new antileprosy drugs and how they might be incorporated into 'second' generation regimens aimed at reinforcing the MDT campaign. Dr Srinivasan stressed the importance of planning the transfer of rehabilitation and re-enablement techniques, so that these will not disappear along with the control programmes when disease prevalence falls. Finally, Dr Feenstra also took up the theme of strategic planning in the face of low prevalence, describing models for the organization of control programmes when it is no longer practical to retain a vertical programme structure.

There is no doubt that the most lively area of debate involved the WHO's campaign for 'elimination of leprosy as a public health problem by the near 2000', a topic which

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could be heard in the coffee rooms, bars and lounge areas of the Conference hotel. In his key note address to the Congress, Dr Paul Brand had given an extremely entertaining and erudite warning of the dangers of predicting elimination of leprosy, reminding us of the predictions which accompanied the introduction of sulphone treatment and drawing comparisons with other infectious diseases which were once thought to be on the verge of eradication. He questioned the selection of the prevalence figure of 1 case per 10,000 as being the target below which the disease would be declared as being no longer a public health problem. Dr Noordeen, in his state-of-the-art speech, acknowledged that there would still be much work to be done even if the 'elimination' target was reached by the year 2000 and that research in such areas as vaccine development, immunology, microbiology and clinical fields should be continued. Most delegates were buoyed by the positive and optimistic message contained in Dr Noordeen's address, while at the same time being conscious of the difficulties ahead and the dangers that lurked if the optimism was replaced by complacency.

In the laboratory sciences, the most impressive progress was seen in our understanding of the basic biology of the mycobacteria, particularly *M. leprae*. The genome project, outlined by Dr Stewart Cole in his state-of-the-art lecture, along with the application of modern molecular techniques presented by many scientists in original papers, are advancing our knowledge in quantum leaps. In addition, to our understanding of the genetic organization of *M. leprae*, clues to the basis of its pathogenicity are being revealed while molecular techniques are being used for more immediate application such as the rapid detection of drug-resistance.

Our understanding of the immunology of leprosy is also keeping pace with basic advances in the field of immunology. At the previous Congress, held in 1988, the use of molecular techniques to identify antigens of *M. leprae* was the major talking point. Now interest is focused much more on trying to understand the cellular and molecular networks which determine the outcome of infection and immunization with mycobacteria. In this respect leprosy is not only seen as an important infection in its own right, but is used as a 'paradigm' for understanding the basis of immunity to intracellular infections in general. Although there has been much progress in understanding such interactions, the 'holy grail' of leprosy immunology—the basis for lack of responsiveness in lepromatous leprosy patients—still appears to be as elusive as ever.

There was a general recognition in many presentations of the importance of reversal reactions. Some of the molecular approaches which have been introduced in recent years are now being targeted towards understanding the immunological basis of immunopathology and nerve damage in leprosy. A recurring theme in several presentations was the possible role of 'molecular mimicry', in which the body's defence mechanisms aimed at bacterial antigens in fact recognized similar structure in the host's own tissue. As with protective immunity, the cytokine network during immunopathological responses is also a target for much research, and there was much discussion and debate surrounding the reports of novel methods for inducing nerve regeneration. Since the problems of reversal reactions, nerve damage and immunopathology will be with us for many decades it is encouraging to see research in these areas at last being recognized as a priority.

There were excellent contributions from all over the world covering a broad range of clinical and social aspects of leprosy. It is essential that the information obtained from well-conducted studies, and the motivational qualities of such work should be maintained as leprosy control enters a new era.

The overriding impression of the Congress was one of being at a turning point. The emphasis is shifting; while the development of new drug regimens, research into vaccines, etc. is continuing, there was a feeling that these are no longer the key issues. The reduction in prevalence in most leprosy-endemic areas will bring new challenges to everyone involved in leprosy research. How can leprosy control be incorporated into primary health care strategies when vertical programmes are no longer cost-effective? Can the implementation of MDT be accelerated and can new, rapidly bactericidal drugs be incorporated into this process? Can we increase our understanding of nerve damage so that novel approaches to reducing disability can be developed? The dividing line between optimism and complacency, between triumph and failure is a fine one. By the time of the XV Congress in Beijing in 1998, we will be well down the road to knowing how these challenges are being met and to which side of that line we are heading.

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