EDITORIAL

Do we need laboratory based research any longer?

STEPHEN L. WALKER
Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, London, UK

Accepted for publication 18 October 2011

The WHO website states that ‘Leprosy is curable and treatment provided in the early stages averts disability’.1 This important message is employed in public health campaigns and by clinicians treating patients. It is hoped that this encourages individuals to seek advice early about symptoms suggestive of leprosy, promotes adherence to multi-drug therapy (MDT) and helps to reduce stigma associated with the disease.2–4 The great success of MDT in treating leprosy is undeniable and the free availability of MDT to leprosy patients is a model for managing other neglected tropical diseases. However MDT alone does not restore all individuals with leprosy to health or rid them of symptoms of the disease. Individuals treated with MDT may experience continuing neuritis and associated nerve function impairment. The nerve damage which leads to disability occurs in the context of reactions and also asymmetrically. In the INFIR Cohort which recruited 303 individuals with multibacillary leprosy more than 60% had a reaction or nerve damage at presentation or during the study.5,6 It is not possible to reliably predict which individuals will develop permanent nerve damage prior to the onset of clinically detectable nerve function impairment without the use of sophisticated electrophysiological techniques.7

The genetic risk factors and pathophysiology of leprosy reactions and nerve damage are still not well understood. The treatment of these reactions has not changed significantly since the first reports of the use of corticosteroids in the 1950s.8 Our understanding of the pathophysiology of these inflammatory states will not improve if laboratory based research is abandoned. Laboratory based research using in vitro techniques and samples obtained from patients are needed. I would argue that research groups should aim to incorporate a laboratory component into all prospective clinical research projects. This may require collaboration between research groups from different disciplines and probably from different institutions. Funding bodies should promote this approach wherever possible. It is also important that when designing laboratory based projects researchers consult their clinical colleagues to ensure that appropriate clinical definitions are employed from the outset. An increased understanding of the immunological and inflammatory processes associated with nerve damage may lead to an improvement in the therapeutics of reactions. The insights gained

Correspondence to: Steve Walker, London School of Hygiene & Tropical Medicine, London WC1E 7HT (e-mail: drstevewalker@hotmail.com)
may have translational applications and improve the understanding of other immune mediated disorders.

The INFIR Cohort study and the IDEAL consortium are examples of collaborative research programmes that the leprosy community should try to build on. We should continue to emphasise that *M. leprae* infection is curable but highlight that its aftermath is still not well understood, continues to blight lives and well designed research of all aspects of it is warranted.

References