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Treatment of leprosy

The evidence base for newer drug combinations and shorter regimens is weak

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Leprosy still poses major therapeutic challenges. We have effective antibiotics to cure the infection, but the immune mediated peripheral nerve damage can continue long after effective antimicrobial treatment has started, and patients continue to be stigmatised. Effective management should therefore include treatment of nerve damage and reactions, prevention of disability, and reduction of stigma. The regimens recommended by the World Health Organization of six or 24 months' multidrug treatment (rifampicin, dapsone, and clofazimine) produce good clinical responses and low rates of relapse. The long term outcome for shorter regimens and other drug combinations, however, is not known. Testing for recent nerve damage and treating it with steroids is essential. Dermatologists already have an important role in treating patients in the large Indian and Brazilian cities, and this is likely to increase as leprosy programmes are integrated into primary care.

Antimicrobial chemotherapy

The WHO recommended multidrug regimen of rifampicin, clofazimine, and dapsone has been used since 1982. It is highly effective, and more than 11.2 million patients have received it.[1 2] Patients receive rifampicin 600 mg monthly, dapsone 100 mg daily, with clofazimine 300 mg monthly and 50 mg daily added in for patients with multibacillary leprosy. The clinical classification uses the number of skin lesions for grouping patients into paucibacillary (five or fewer lesions) and multibacillary (more than five lesions) leprosy.[3] Where possible, slit skin smears should be done and patients with detectable bacilli should be treated with the multibacillary regimen. The initial recommendation was that patients with paucibacillary leprosy should be treated for six months and those with multibacillary leprosy for 24 months.[1] A recent paper in *Clinical Evidence* has collated data from observational studies and shows the value of complying with these simple, WHO recommended regimens.[4] Monthly supervision of treatment has also been critical to success.

One of the subtleties of treating leprosy is the lack of clear cut end points of treatment. Up to 42% of patients with paucibacillary leprosy may still have active skin lesions at the end of treatment because of the continuing immune responses, but this does not denote failure of treatment.[4] Relapse rates are impressively low for paucibacillary and multibacillary regimens, ranging from 0% in China to 2.04 per 100 person years in India.[4] These regimens confirm the effectiveness of a single monthly dose of rifampicin and avoid the toxicity experienced with daily rifampicin. In 1998 the WHO technical advisory group noted that multibacillary patients could probably be treated with only 12 months of multidrug therapy.[1] However, no long term relapse data are currently available for this regimen, and many healthcare providers prefer to continue with the evidence based 24 month regimen.

Studies from India and Mali show that patients with a very high initial bacterial load (bacterial index more than 4+ on skin smear) have higher relapse rates (four to seven per 100 person years) and these relapses may occur late (averaging five years after treatment).[5 6] The Indian study compared relapse rates in patients with a very high initial bacterial load either given 24 months' treatment or until slit skin smears were negative; the relapse rate was much higher in the group treated for 24 months, and this only emerged after four years of follow up after treatment.[5] One option is to give such patients the choice of being treated until their skin smears are negative or being kept under regular review.

The place of the drug combination rifampicin, ofloxacin, and minocycline is also unclear. It was used as a single dose for single skin lesions but in a large study from India was found to be less efficacious than the standard paucibacillary-multiple drug therapy (PB-MDT) regimen, given for six months.[7] Monthly rifampicin, ofloxacin, and minocycline in combination has been used in both multibacillary and paucibacillary disease, with good clinical responses.[8] Although the initial response to this new regimen may be good, the critical question is the relapse rate over the following 10 years, and this requires careful long term studies before the regimen can be recommended generally. At this point it would be unwise to abandon the well proved WHO regimens.

Nerve damage

Detecting and treating nerve damage early is the key to preventing deformity. Nerve damage may occur before diagnosis, during treatment, or after it. Thirty per cent of patients with multibacillary leprosy will either have a reaction or develop new nerve damage, often within the first few months of starting anti-leprosy drugs. Assessing and monitoring peripheral nerve function should be part of the routine assessment of every patient. Data from Bangladesh show that the patients at highest risk of developing new nerve impairment were those with multibacillary leprosy, with pre-

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existing impairment, who had a 65% risk of new damage.[9]

Paramedical workers in leprosy programmes have acquired considerable skills in palpating nerves for tenderness, testing muscle function in hands and feet, and assessing sensory loss with monofilaments every month. Dermatologists should do this routinely too. The nylon Semmes-Weinstein monofilaments for detecting sensory loss were developed for use in leprosy programmes and have recently been taken up by diabetes programmes. Patients presenting with new muscle weakness or sensory loss should be treated with a course of prednisolone, starting at 30-40 mg daily.[10] Preventing new nerve damage remains a challenge, as illustrated by the double blind randomised controlled trial reported in this issue of the *BMJ*[11] (p 1459). New multibacillary patients were randomised to receive either 20 mg of prednisolone or placebo for the first four months of treatment. Whilst new nerve damage was reduced during steroid treatment, when steroids were stopped there was an increase in nerve damage. This suggests that the biological mechanism of nerve damage is a powerful long lasting immunological event. This trial's results do not support the routine use of prophylactic steroids in all multibacillary leprosy patients. Type 1 (reversal) reactions affecting skin and nerve should be treated with a four to six month course of steroids. Type 2 (erythema nodosum leprosum) reactions affect about 20% of patients with lepromatous leprosy. These episodes can be treated with a short course of steroids. In severe and repeated episodes thalidomide is more effective than steroids, but it must be used with great care, especially in premenopausal women.[12]

For many patients leprosy is a devastating diagnosis, and they need reassurance that they will be non-infectious within 72 hours of starting treatment, cannot pass on the infection by touch, and will not necessarily develop deformities.

The contribution that dermatologists make to the treatment of leprosy is increasing. The integration of leprosy into mainstream services offers opportunities for developing improved links with dermatologists. Leprosy programmes could become more effective by involving dermatologists in training for neurological assessment, providing monofilaments, physiotherapy, and footwear for patients with established nerve damage.

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The prejudices of good people

Leadership is needed to combat continued institutional racism

If it is only bad people who are prejudiced, that would not have such a strong effect. Most people would not wish to imitate them—and so, such prejudices would not have much effect—except in exceptional times. It is the prejudices of good people that are so dangerous.

Vikram Seth. *A suitable boy*. London: Phoenix, 1993.

In October 1998 a young black man, David "Rocky" Bennett, died while under the care of the NHS at a psychiatric secure unit in Norwich. An inquiry team led by a retired high court judge, John Blofeld, found that Mr Bennett, who had schizophrenia, was killed by being held face down on the floor for 28 minutes by at least four mental health nurses. He had been restrained with unacceptable force after he punched a nurse, believing that he was being racially victimised. Apart from investigating the circumstances of Mr Bennett's death, the inquiry team looked more broadly at the way in which black and ethnic minority communities are treated by the mental health services of the NHS. Blofeld concluded that people from black and ethnic minority communities are not getting the service they are entitled to. He described the institutional racism that was responsible for this as a "disgrace" and a "festering abscess which is at present a blot upon the good name of the NHS."[1]

The term "institutional racism" was defined in 1999 by another retired high court judge, William Macpherson, in the Stephen Lawrence inquiry. This was set up to investigate the failure of a police investigation into the murder of a young black man. Macpherson described it as "the collective failure of an organisation to provide an appropriate and professional service to people because of their colour, culture, and ethnic origin."[2]

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