The different aspects of leprosy chemotherapy

This issue has a group of papers relating to chemotherapy and we cover many topical aspects of chemotherapy. Girdhar et al. (pp. 46–54) have done a randomised controlled trial in Agra comparing two treatments for single lesion leprosy. Interestingly adding clarithromycin to the rifampicin, ofloxacin, minocycline (ROM) combination did not improve effectiveness of this treatment. However this is already a highly effective treatment with cure rates at 2 years of 93% with ROM and relapse rates of 1/100 person years. This is an important study and it is very useful to know that clarithromycin does not improve outcomes and will give planners confidence to promote the use of this simple regimen for single lesion leprosy.

Maghanoy et al. (pp. 65–69) have done a prospective study of the effectiveness of 12 months of WHO Multibacillary multi-drug therapy in The Phillippines. Patients were MB types with a range of Bacterial Index (BI) scores. It is impressive that there was only one relapse in this cohort of 300 patients who were followed up for a mean of 6-4 years and this occurred 7 years after MDT. This gives an overall relapse rate of 0.3% for the whole cohort and 0.6% for the subgroup with BI > 4+. This again confirms that patients with a high initial BI are at higher risk of relapse but in this cohort it was a low risk. It is important that similar studies should be done in India so that the effect of 12 months treatment can be formally measured in a prospective study.

Singh et al. (pp. 17–24) report interesting data from India on the adverse effects rates in patients treated with MDT. 44.8% of patients had adverse effects from MDT with 92.4% being due to dapsone, 20.2% due to clofazimine and 10.1% to rifampicin. These high rates of adverse effects due to dapsone have been reported previously in a study from Brazil. This high rate of adverse effects might be partly because MDT has dapsone at a strength of 100 mg which is higher than that used earlier in leprosy treatment. However this highlights the need to develop and assess MDT regimens that do not contain dapsone.

Dapsone is also still associated with significant levels of drug resistance. Sekar et al. (pp. 36–45) have examined biopsies from a mixed group of patients with clinical evidence of relapse, new presentation and defaulters. Using a PCR detection technique they found molecular evidence of dapsone resistance with the folP1 gene in these samples. They did not find any molecular evidence of rifampicin resistance in this small group of samples.

The final paper in the chemotherapy group is from Weiand et al. (pp. 70–73) who report a compliance study done in Hyderabad looking at the presence of dapsone metabolites in urine samples from patients attending a clinic in Hyderabad, India. It is alarming that even amongst patients who were attending the clinic only 48% had evidence of recent ingestion of their drugs. There have been no recent studies on compliance in leprosy patients and this study probably highlights a serious problem. It might be that patients are recognising that they are experiencing adverse effects from dapsone and are not taking the dapsone part of the MDT regimen. However this poor compliance needs urgent further investigation to determine whether this is occurring in other settings. Exploratory work also needs to be done to determine the causes for non-compliance. Our current rates of low level resistance to MDT will only be preserved if patients are fully compliant with the MDT regimen.

A study from Brazil shows how even with good treatments leprosy still remains a serious social problem for patients. Nardi et al. (pp. 55–64) have interviewed patients in Brazil and found that in a group of patients who had been treated 3–10 years previously 32% had disabilities as measured by their

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eye hand foot score and 35 > 4% had restriction in social participation. This illustrates the continuing challenges of post treatment leprosy.

Etienne De Clercq has written two editorials for this issue. In one (pp. 3–5) he discusses the latest data on the global leprosy problem. This shows that in the major leprosy endemic countries leprosy figures appear to be stabilising. It is also a concern that the disability rate in India which has always been low has now risen for 5 years. This can be an indication of decreased early case finding. He also discusses the strengths and weaknesses of the new leprosy indicator, noting that it is an easy indicator to measure but is also influenced by operational factors. One important caveat is that this does not account for disabilities that develop after treatment. Disabilities that develop after treatment are very relevant for patients and also affect the levels of health care provision that they will need.

Finally there is a workshop report (pp. 80–85) from the IDEAL meeting in Beijing last August. Significant progress is being made in developing and using molecular epidemiological techniques for looking at the global spread of the mycobacterium and also local strain diversity for *M. leprae*. It is also encouraging that *M. leprae* antigens and peptides are now being identified that are disease specific. Previous antigens have had a high rate of cross-reactivity with T cells from patients with tuberculosis or household contacts. These tests might also be used to explore the levels of sub-clinical infection in areas of ongoing leprosy transmission.

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