TROPICAL DERMATOLOGY

UPDATE ON LEPROSY RELAPSE AND REINFECTION AFTER MULTIDRUG THERAPY

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Leprosy is a complex dermato-neurologic and systemic disease primarily caused by Mycobacterium leprae or to a much lesser extent by Mycobacterium lepromatosis. The incidence of disease remains high in many countries, especially in India and Brazil, and overall, more than 200,000 new leprosy cases are reported each year worldwide. Operational classification is used to define the treat?ment regimen with multidrug therapy (MDT)according to the number of skin lesions. Patients with paucibacillary (PB) disease present with up to five lesions, whereas those with multibacillary (MB) disease present with more than five lesions.
The MDT regimen for leprosy consists of different antibiotic combinations that are prescribed based on the number of skin lesions: a six-month regimen of rifampicin and dapsone for paucibacillary (PB) patients (<5 skin lesions) and a twelve-month regimen of rifampicin, dapsone and clofazimine for multibacillary (MB) patients (>5 skin lesions).
Despite the multidrug therapy (MDT) we have in some case the Leprosy relapse phenomenon. According the WHO the Leprosy relapse is when "A patient who successfully completes an adequate course of MDT, but who subsequently develops new signs and symptoms of the disease either during the surveillance period (2 years for PB and 5 years for MB leprosy) or thereafter."
This process that is still a significant health threat in low- and middle-income countries where it exists in pockets of high endemicity. There are wide variations in estimates of relapse rates after the World Health Organization (WHO) multidrug therapy in different regions. This is probably due to variations in the definition of relapse, proportions of previously dapsone-treated and untreated patients, range of skin smear positivity in MB cases and differing durations of follow-up. The risk of relapse is very low, both for PB and for MB patients after completion of MDT, and this is at least 10 times lower than with dapsone monotherapy. The WHO has estimated a risk of relapse of 0.77% for MB and 1.07% for PB patients 9 years after stopping MDT. Various other studies using person-years of observation estimate relapse rates varying from 0.65 to 3.0% for PB and 0.02 to 0.8% for MB leprosy. Such variability could be attributed to endemicity level in the study settings, differences in study designs, varying periods of follow up and use of non-uniform definitions.
The important predisposing factors for relapse include the presence of persisting organisms, permanently or partially dormant organisms that have the capacity to survive in

the host despite adequate chemotherapy, monotherapy, inadequate/irregular therapy, presence of multiple skin lesions/thickened nerves and lepromin negativity but also, as pointed out in a study recently published the reduced response of the effector T cells against M. leprae.
An update overview of the leprosy relapse/ reinfection diagnosis , prevention and treatment will be discussed.