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CASE REPORT

Relapse of lepromatous leprosy after WHO/MDT with rapid bacterial growth

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Summary The authors report a case of relapse in a lepromatous patient 6 years after he had been cured by MDT/WHO/24 doses. The atypical aspect emphasized in this case is the bacterial load increase in a short period of time of 1 year after the smear count was negative, and the case reinforces the importance of patient education on release. No leprosy cases were identified in the patient's close contacts. It seems that relapse was a result of bacillary persistence, since a significant improvement was noted in relapsed lesions after two doses of MDT/WHO.

Introduction

Relapses after treatment with dapsone monotherapy and also with various rifampicin-containing regimens have been reported by many authors.[1–5] The results of THELEP trials demonstrated that persisting *M. leprae* were detected in approximately 9% of all patients, without relation to regimen or duration of treatment.[6] Although the WHO/MDT regimen (rifampicin 600 mg monthly + clofazimine 300 mg monthly and 50 mg daily + dapsone 100 mg daily) during 24 or 12 months is not capable of sterilizing this bacterial population, relapse resulting from bacterial resistance is less expected, since relapses are usually a result of persistence of drug-sensitive organisms which might have escaped the action of drugs.[3]

Case report

A 70-year-old Brazilian man, resident in a peripheral area of Rio de Janeiro City, was diagnosed as having lepromatous leprosy (LL) confirmed by positive slit skin smears (BI = 3+) and histopathological examination in April 1992. He was given WHO/MDT 24 doses and released as cured, after regular treatment, in April 1994. At this time, his bacillary

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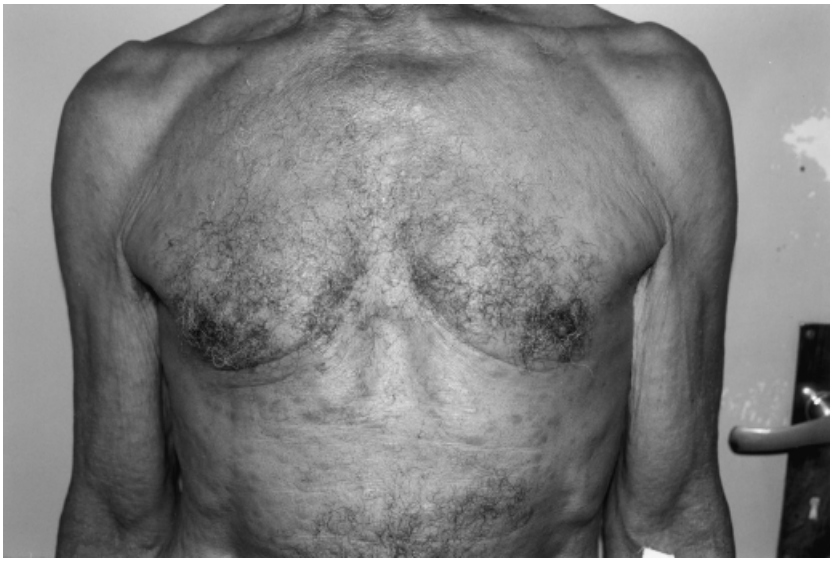

Figure 1. Nodular skin lesions on trunk and extremities, compatible with lepromatous leprosy.

index (BI) from routine laboratory tests was negative. Subsequently, he presented with a reaction episode of neuritis in 1996, which was treated with prednisolone until May 1997.

In December 1998, he presented with eruptive skin lesions considered by three experienced dermatologists as to be photoeczema or mycosis fungoides. Histopathological examination from of these lesions in March 1999 was not conclusive, although more compatible with photoeczema, and disappearing under topical treatment. No bacilli were found at that time. In January 2000, new nodular skin lesions, clinically LL compatible, were

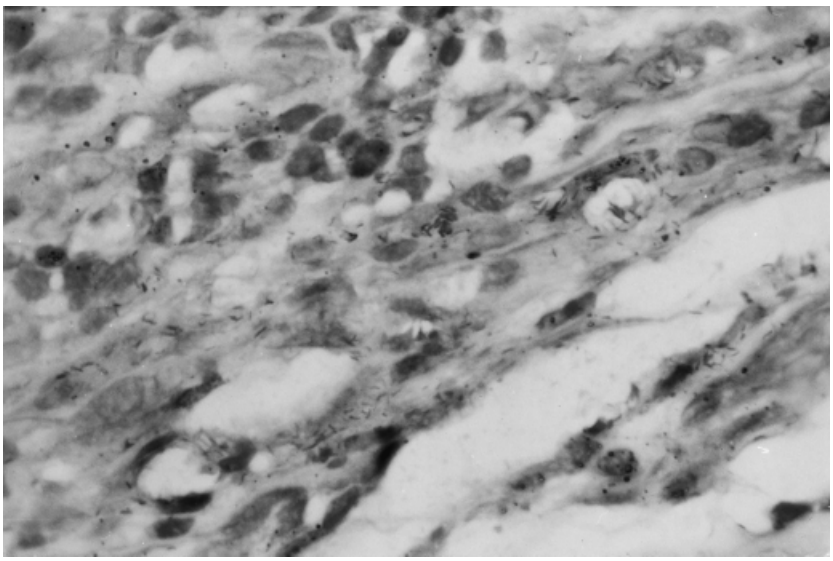

Figure 2. Histopathological examination of trunk lesion biopsy, confirming lepromatous leprosy.

noted on the trunk and extremities (Figure 1). No nerves were affected. The BI, from ear lobes and skin lesions was 4+, with several globi, and the histopathological examination of the trunk lesion biopsy revealed LL (Figure 2). The exhaustive review of histopathology done in 1999 was negative, which confirms that the morbidity feature presented 1 year previously was not leprosy. The diagnosis of relapse was made and the MDT/WHO regimen for MB leprosy was then restarted.

The patient has now been started again on regular MDT/WHO/24 doses, and has shown a significant and progressive improvement of in his lesions, without signs or symptoms of reaction. The patient is cooperative, with no other known associated disease. No leprosy cases were identified in his close contacts.

Discussion

In a recent prospective study, the efficacy of fixed duration WHO/MDT regimen was vindicated.[4] Other authors demonstrated that in a longer follow-up, the risk of relapse was significantly higher in patients with elevated bacterial load (BI ≥ 4) before and after 2 years of treatment with MDT, and relapses were a result of bacterial persistence.[3] One other cause of relapse could be re-infection, which is not possible to prove. Different relapse rates were found, varying from 0.72 to 10% in patients treated with MDT/WHO/24 doses.[8–10] This event is more frequent after the fifth year post-treatment and the most frequent cause is bacillary persistence. This patient relapsed 5½ years after release for cure, which is considered to be the normal incubation period for relapse.[1,8–10] However, the development of LL lesions and bacilli growth over 1 year was not expected. Based on this report, we conclude that as the risk factors of relapse are not completely understood, all patients, especially multibacillary cases, should be instructed to return as soon as any new lesion appears, in order to stop the transmission chain. This example also illustrates that gaps still occur, which may delay the achievement of the goal of leprosy elimination, despite the efficacy of MDT in reducing the number of new sources of infection.

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