

Letters to the Editor

MINOCYCLINE CURES TUBERCULOID LEPROSY

Sir,

A 21-year-old woman was seen in March 1991 to investigate an asymptomatic plaque on the right forearm. Examination revealed a well-defined, slightly erythematous, raised, dry, anaesthetic and analgesic oval plaque of 3×2 cm on the volar aspect of the right forearm. There was no thickening of the cutaneous or peripheral nerves. She also had numerous acne—papules, comedones and nodules on the face and chest. A clinical diagnosis of tuberculoid leprosy with acne vulgaris was made and she was investigated further.

Routine laboratory blood tests that included total and differential leucocyte counts, haemoglobin level, and ESR were within normal limits. Serum bilirubin and SGPT were normal. Urinalysis was normal. Slit-skin smears from the plaque and earlobes did not show any acid-fast bacillus. A skin biopsy from the plaque was done and she was asked to return after 3 weeks for the biopsy result and treatment for leprosy. For the acne vulgaris she was prescribed oral minocycline 50 mg bd for 6 weeks. Meanwhile we received the biopsy result which revealed tuberculoid granuloma in the dermis and these features were consistent with the diagnosis of tuberculoid (TT) leprosy. Because she moved some distance away she was only able to come for the biopsy result in August 1991, that is, 5 months after her initial visit to our clinic. She had not received any routine antileprosy drug, but only minocycline prescribed for acne vulgaris. During this visit, when examined, to our surprise her leprotic skin lesion was found to have completely regressed leaving an atrophic, hypoalgesic, ill-defined macule. The histopathological study of the biopsy specimen from this atrophic macule revealed only sparse collections of lymphocytes around the neurovascular bundles. There were no tubercles or epithelioid cells. No antileprosy drug was given and she was further followed up in December 1991 when there was no evidence of activity of the leprosy lesion.

Recently many new drugs have been reported to be effective against *Mycobacterium leprae*, including derivatives of fluoroquinolones, macrolids, rifamycin, phenazine and betalactam antibiotics.¹ Minocycline, an alkylated aminotetracycline, has also been reported to be effective against *M. leprae* in experimental animals.² It is an established antimicrobial and it seems to be safe in the long-term therapy of acne.³ The drug is highly lipophilic, facilitating good tissue penetration.⁴ This same lipophilic property probably allows it to penetrate the cell walls of *M. leprae* more effectively. In higher concentration it is bactericidal and its minimum inhibitory concentration (MIC) against *M. leprae* has been estimated to be about 0.2 mg/l.² The leprosy lesion in our patient was accidentally cured following 6 weeks' minocycline, the drug being prescribed for the treatment of her associated acne. It is well known that a majority of tuberculoid lesions may regress spontaneously, because of the high cell-mediated immunity the affected persons possess against *M. leprae*. But this spontaneous cure occurs only after prolonged periods, which may take a few years. The rapid regression of the leprosy lesion within 5 months of the initiation of minocycline therapy in this patient suggests that it resulted from the antimycobacterial and anti-inflammatory effect of

minocycline, rather than the spontaneous cure achieved by the high CMI she possessed. The safety in the prolonged treatment of acne with minocycline is well established. The adverse effects that may rarely occur during minocycline therapy include gastrointestinal discomfort like nausea and vomiting, benign intracranial hypertension manifesting as vertigo, dizziness and visual disturbance, and blue-grey to brown pigmentation of the skin.⁴ The safety of this drug in pregnancy has not been established. In leprosy more clinical trials, especially in bacilliferous types, are indicated to confirm its antileprosy effects, but a pilot study in 8 LL and BL patients has already shown the drug to be highly effective.⁵

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References

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