CASE REPORT

Azathioprine in controlling Type 2 reactions in leprosy: a case report

S. P. K. ATHREYA*
The Leprosy Mission Hospital, Nand Nagari, Delhi, India

Accepted for publication 10 May 2007

Introduction

Type 2 reaction (Erythema Nodosum Leprosum - ENL), occurs frequently in patients with lepromatous leprosy.1 Steroids are the treatment of choice but can lead to various complications when used on a long-term basis.2

In uncontrolled, recurrent Type 2 reactions, several second-line drugs such as clofazimine or pentoxyfyllin have been tried but not with consistent success.3 Thalidomide, though effective, is not recommended in some programmes for pre-menopausal female patients due its teratogenic effects. The search for an effective alternative led to azathioprine known for its suppressive action on T-cells and antibody mediated cytotoxicity.4

We present a case report of a female leprosy patient where azathioprine was used successfully in combination with cortico-steroids to control Type 2 reaction.

Case Report

A 53 year old female diagnosed elsewhere in May 2000 as lepromatous leprosy presented at our hospital in September 2000 with a 2-month history of papulonodular eruptions associated with general malaise and recurrent fever. She was diagnosed with a Type 2 reaction. Histopathology confirmed the diagnosis of BL leprosy, and her bacteriological index was 3-3+. She reported that she had taken two pulses of MDT and was prescribed non-steroidal anti-inflammatory (NSAID) for her symptoms of pain and fever. She gave no history of diabetes mellitus, hypertension, tuberculosis or drug intake for reason other than for the current problem.

She was febrile, moderately built, well nourished, with no visible abnormality or significant lymphadenopathy, hepatosplenomegaly or skeletal defects. The skin was diffusely infiltrated, studded with tender papules and nodules distributed over her face and
upper limbs. Laboratory investigations were normal except for a slight increase in ESR and white blood cell count. On examination her ulnar and lateral popliteal nerves were found to be thickened bilaterally but with no pain or tenderness. There was no sensory or motor impairment.

She continued MB-MDT along with 40 mg prednisolone daily for treatment of ENL reaction, following standard regimen. A time-line showing the laboratory investigations, superimposed morbidity and treatment given is shown in Figure 1.

Azathioprine 50 mg/day was prescribed from August 2002 together with prednisolone 35 mg and clofazimine 300 mg daily. After one more episode in September 2002, the ENL never recurred, and from June 2003, all drugs were stopped. Overall, she had consumed nearly 20 g of prednisolone, 46 cc of dexamethasone and 11 g of azathioprine.

Fortnightly review till the end of 2004 revealed no further evidence of nerve function impairment, and her full blood counts were normal indicating good bone marrow function. She complained of weakness and loss of appetite in June 2003, but no abnormalities were found on investigation. Body weakness is not a recognised side-effect of azathioprine but anorexia is. She continued attending the hospital with complaints of body weakness and loss of appetite associated with urinary tract infection, and minor gynecological problems. In March 2004 she attended with knee joint pain that subsided in a week after treatment with NSAIDs.

**S: Steroids  C: Clofazimine  D: Dexamethasone  A: Azathioprine**

*Urt: Urticaria  UTI: Urinary Tract Infection  DM: Diabetes Mellitus  O: Osteoporosis
AN: Anorexia,  KJP: Knee Joint Pain

**Figure 1.** Timeline showing laboratory investigation, superimposed morbidity and treatment given.
Discussion

Type 2 reactions can be chronic, debilitating and unsuccessfully treated even with massive dosages of steroids.\(^1,2\) Marlowe et al reported a successful use of azathioprine in treatment of Type 1 reactions.\(^5\) The efficacy of azathioprine in Type 2 reactions is yet to be determined through appropriate randomised controlled trials (RCT). In our patient, azathioprine was introduced only after intensive treatment with steroids for nearly 2 years had failed to control the Type 2 reaction. The dose of azathioprine was kept low since immune suppression may have been already achieved with steroids.

Our experience shows that azathioprine may be useful in treating recurrent chronic ENL. This case report highlights the need for larger studies defining the role of azathioprine in managing Type 2 reactions.

Acknowledgements

I would like to thank Dr. P.S.S. Rao, Research Coordinator, for guidance while writing this case report, and Dr. D. Vijay Kumar, Superintendent, TLM Hospital Nand Nagri, for support, and to Mr. Jeyakumar Daniel, Director, for encouragement.

References