Single-Dose Treatment for Paucibacillary Leprosy; Clinical Problems and Management

TO THE EDITOR:

The advent of short-course chemotherapy has brought on a revolution in the treatment of leprosy at the same time indicating the possibilities of saving considerable manpower and resources. A single dose of rifampin, ofloxacin and minocycline (ROM-1) is reported to be as effective as 6 months paucibacillary multidrug therapy (PB MDT) for single skin lesion PB (SSL-PB) leprosy cases. In our earlier reports, clinical problems after ROM-1 in SSL-PB leprosy ([4]) and in PB leprosy with two to three lesions ([2]) were reported.

We present here our long-term observations on the clinical problems and events after ROM-1 in 329 SSL-PB patient (Table 1) and in 305 PB patients with 2 to 5 lesions [PB (2–5)] (Table 2). Efficacy of treatment was evaluated on the rate of clinical regression and occurrence of reaction and clinical events during follow up. Reappearance of the lesions in treated cases has profound implications for case management, disease transmission and control, in addition to the social factors. The feasibility and operational aspects are discussed separately elsewhere in this issue ([1]).

The patients were followed for a period of 42 months. Clinical problems encountered were of the following nature: 1) new lesions: 13 cases developed new lesions which were hypopigmented/erythematous in appearance, of small-to-moderate size and with hypoesthesia; 1 case had developed new hyperpigmented lesions and 3 had new nerve lesions; 2) increase in size of lesion/extension of lesion: 6 cases showed an increase in the size of the lesion which was marginal and anesthetic in nature; and 3) persistence of existing lesions: 5 cases had persistently raised erythematous lesions, 4 of whom continue to remain stationary. The phenomenon of delayed clearance of granuloma could be responsible for such clinical problems. Further follow up of these cases will help to confirm this phenomenon.

While considering the "clinical events," patients with type 1 reaction and neuritis who were managed in the conventional manner were excluded from the study.

Severity. Most of the clinical features observed in these cases were of mild-to-moderate nature.

Frequency. Clinical events were encountered over a period as early as 6 months after withdrawal of the treatment and delayed events were observed over a period of 42 months in both of the groups. One SSL-PB patient and two PB (2–5) patients had a recurrence of skin lesions despite a course of steroids.

Management. All of the patients with the clinical events described above were treated with a standard course of steroids (starting dose 40 mg daily) tapered gradually over a period of 5 to 6 months. Child patients were treated with a proportionate lesser dose. Four SSL-PB patients and 6 PB

TABLE 1. *Clinical problems after ROM-1 in SSL-PB patients.*

No. patients followed up	329
Clinical problems responding to steroids	4 (1.3%)
Clinical problems not responding to steroids	5[a] (1.5%)
Lesion increasing in size	
New lesion(s)	
Persisting lesion	
Under investigation	3
Total	12 (4%)

[a] One case diagnosed as relapse was retreated with ROM-1 with good results.

TABLE 2. *Clinical problems after ROM-1 in PB (2–5) patients.*

No. patients followed up	305
Clinical problems responding to steroids	6 (2%)
Clinical problems not responding to steroids	3 (1%)
Lesion increasing in size	
New lesion(s)	
Under investigation	3 (1%)
Total	12 (4%)

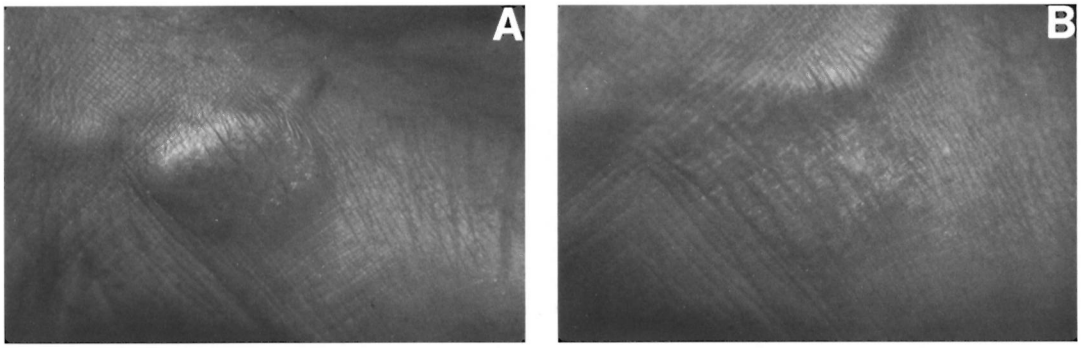

FIG. 1. Case 1. **A** = Before re-treatment; **B** = 10 months after re-treatment with ROM-1.

(2–5) patients responded satisfactorily while 8 (1.3%) cases who did not show satisfactory response and in whom the problems persisted were termed as "Clinical problems persisted." These patients have been kept under observation and are subjected to periodic clinical review. One patient among these eight cases with occurrence of a new lesion and no change in the initial lesion was diagnosed as a relapse. Since there was no response to a therapeutic trial with a standard course of steroids, the patient was retreated with the ROM-1 regimen 19 months after development of the new lesion. The clinical response after re-treatment was remarkable (Fig. 1).

A second patient who was treated with a standard course of steroids subsequently had to be put on only clofazimine in an antiinflammatory dose in view of the raised and erythematous nature of the lesion on the face. Recently, this patient had to be given clofazimine and steroids together since the lesion was still raised and erythematous (Fig. 2). This patient is currently on clofazimine and steroids and is under observation.

Observations. These clinical events observed long after chemotherapy intervention seem to be arising as a result of immunological response to live bacilli or antigenic elements present either in the skin or the nerves. Similar experiences have been encountered also in PB leprosy patients treated with conventional WHO-PB-MDT ([5]), which emphasizes the reasoning behind persisting antigens giving rise to such clinical events. The laboratory and immunological significance of the recurrence of skin and nerve lesions in ROM-1 treated cases and the lack of response in some of the cases to a standard course of steroids is a matter for research from a management point of view. The pathogenesis of such clinical events is not well understood. Whether these are true "relapses" remains to be seen and if so, they may need to be retreated with the ROM-1 regimen.

Out of the 24 cases who presented with clinical problems, 8 belonged to the adolescent age group, a group that is subjected to fluctuating hormonal levels of a physiological nature. The possibility of this phenomenon influencing the disease manifestation

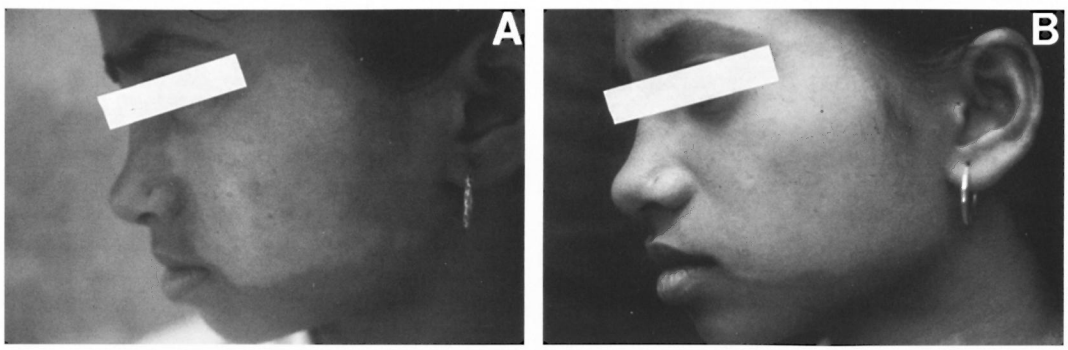

FIG. 2. Case 2. **A** = Showing no response to steroids; **B** = presently on clofazimine and steroids.

or such clinical problems needs to be investigated. The phenomenon of lesions on the face posing therapeutic difficulty also should be properly understood and answered. However, the management of the problem should be tackled in a rational manner without any empirical approach. Considering the nature of the clinical events in our experience, it appears that most of the events seem to be manageable. Their field implications are discussed separately elsewhere in this issue ([3]).

—V. V. Pai
H. O. Bulchand
C. R. Revankar
R. Ganapati

Bombay Leprosy Project
Vidnyan Bhavan
11, V N Purav Marg
Sion-Chunabhatti
Mumbai 400 022, India

REFERENCES

1. Ganapati, R., Revankar, C. R., Pai, V. V. and Kingsley, S. Single-dose treatment for paucibacillary leprosy; feasibility of long-term follow up. (Letter) Int. J. Lepr. **67** (1999) 308–309.
2. Pai, V. V., Revankar, C. R., Pai, R. R., Das M. and Ganapati, R. ROM single dose for PB leprosy with 1 to 3 lesions. (Abstract) Int. J. Lepr. **66** (1998) 2A.
3. Revankar, C. R., Pai, V. V., Antony Samy, M. S. and Ganapati, R. Single-dose treatment for paucibacillary leprosy; field implications. (Letter) Int. J. Lepr. **67** (1999) 312–313.
4. Revankar, C. R., Pai, V. V., Bulchand, H. O. and Ganapati, R. Delayed clinical problems in single lesion PB leprosy after single dose ROM. (Abstract) Int. J. Lepr. **66** (1998) 16A.
5. Shetty, V. P., Suchitra, K., Uplekar, M. W. and Antia, N. H. Persistence of *Mycobacterium leprae* in the peripheral nerve as compared to the skin in multidrug treated leprosy patients. Lepr. Rev. **63** (1992) 329–336.

Single-Dose Treatment for Paucibacillary Leprosy; Field Implications

To the Editor:

Even though the single-dose treatment of single skin lesion paucibacillary (SSL-PB) leprosy with a single dose of rifampin, ofloxacin and minocycline (ROM-1) is effective and easy to administer, some delayed clinical problems/events, such as the appearance of new lesions, extension and persistence of existing lesions including relapse, have been reported ([6]). Further observations on such delayed clinical problems in SSL-PB and paucibacillary leprosy patients with two to five lesions [PB (2–5)], their clinical management and feasibility of long-term follow up to identify such events are reported elsewhere in this issue ([1, 4]). More and more such delayed clinical presentations are expected to be encountered by field workers over time and treated and

Table 1. *Relapse rate after ROM-1.*

Description of events	ROM-1 (SSL-PB)	ROM-1 (PB 2–5)	Total
No. patients followed up	329	305	634
Person years follow up	698	563	1261
No. patients with delayed clinical problems	12 (4%) (17/1000 py)[a]	12 (4%) (21/1000 py)	24 (4%) (19/1000 py)
No. patients remaining as problem cases[b]	5 (1.5%) (7/1000 py)	3 (1%) (5/1000 py)	8 (1.3%) (6/1000 py)
No. patients benefited	324 (98.5%)	302 (99%)	626 (98.7%)
No. patients relapsed	1 (0.3%) (1.4/1000 py)	0	1 (0.2%) (0.8/1000 py)

[a] py = Person-years of follow up.
[b] Six patients still under investigation have not been included.