

✓ DELAYED HYPERSENSITIVITY TESTS WITH MYCOBACTERIUM LEPRAE PROTEIN IN LEPROUS AND NON-LEPROUS PERSONS<sup>1</sup>

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Intradermal tests were given with lepromin, M. leprae protein and tuberculin to three patients with lepromatous leprosy, three with borderline leprosy (2 BL, 1 BT), six with tuberculoid leprosy (all histopathologically confirmed) and three non-leprosy persons, who had Donovanosis, Acanthosis nigricans, and Epidermolysis bullosa, respectively.

The lepromin was prepared by the method of Dharmendra (1). It contained 1 mg of dry bacterial powder in 10 ml of 0.5 percent carbol saline. M. leprae protein was prepared from armadillo tissue derived M. leprae by the method described by Kirchheimer et al. (2) Tests were carried out with 0.049 milligrams of the protein. Tuberculin tests were carried out with 20 TU (0.2 microgram).

All tests were carried out at the Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India, with M. leprae protein supplied by Dr. Kirchheimer (3). The results of these tests are summarized in Table 1.

The reactions to the protein in the twelve leprosy patients and in two of the non-leprosy persons correlated perfectly with the results of the lepromin tests (histologically confirmed except where indicated otherwise). The third non-leprosy person had a questionable reaction to the lepromin antigen and a negative one to the protein. In this case no histological examination of the lepromin site was made. Cross reactivity between tuberculin and M. leprae protein must be further investigated.

It is concluded that the M. leprae protein can replace lepromin and in addition is a very promising antigen for various objectives of WHO's IMMLEP program.

<sup>1</sup>Discussion.

Table 1. Lepromin, *M. leprae* protein and tuberculin reactions in leprous and non-leprous persons

Type of Disease	Lepromin Reaction in mm	<i>M. leprae</i> protein Reaction in mm		Tuberculin Reaction in mm	
		48 hours	72 hours	48 hours	72 hours
Lepromatous Leprosy	Negative	Negative	Negative	10 x 10	10 x 10
Lepromatous Leprosy	Negative	Negative	Negative	12 x 12	12 x 12
Lepromatous Leprosy	Negative	Negative	Negative	Negative	Negative
Dimorphous Leprosy (BT)	4	7 x 8	8 x 8	10 x 10	10 x 10
Dimorphous Leprosy (BL)	Negative	Negative	Negative	9 x 9	9 x 9
Dimorphous Leprosy (BL)	Negative	Negative	Negative	11 x 11	11 x 11
Tuberculoid Leprosy	5	6 x 7	7 x 8	11 x 11	11 x 11
Tuberculoid Leprosy	5	8 x 8	8 x 8	14 x 14	14 x 14
Tuberculoid Leprosy	6	12 x 12	12 x 12	9 x 9	9 x 9
Tuberculoid Leprosy	5	9 x 9	9 x 9	12 x 12	12 x 12
Tuberculoid Leprosy	6	6 x 6	7 x 7	11 x 11	11 x 11
Tuberculoid Leprosy	4	10 x 10	10 x 10	8 x 8	9 x 9
Donovanosis	4	5 x 5	5 x 5	8 x 8	8 x 8
Acanthosis nigricans	Negative	Negative	Negative	Negative	Negative
Epidermolysis bullosa	Questionable	Negative	Negative	11 x 11	11 x 11

## REFERENCES

1. Dharmendra. Notes on leprosy - Ministry of Health, Govt. of India, 371-380, 1967.
2. Kirchheimer, W. F., Prabhakaran, K., Harris, E. B., Sanchez, R. M. and Shannon, E. J. Preparation of protein from Mycobacterium leprae and skin-test responses of vaccinated armadillos. Lepr. in India 47:142-150, 1975.
3. Bedi, B. M. S., Harris, E. B., Narayanan, E. and Kirchheimer, W. F. Delayed hypersensitivity tests with Mycobacterium leprae purified protein derivative. Accepted for publication, Leprosy in India.