

FOLLOW UP OF CONTACTS OF LEPROSY PATIENTS AND EARLY LEPROSY*

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The system of clinical and bacteriological examination of contacts of out patients was introduced in the clinic of the Acworth Leprosy Home in 1942. Within a few years such examination revealed that some contacts were repeatedly positive for acid-fast bacilli in the skin of various parts of the body, although no lesions could be found. It was, therefore, logical to assume that these contacts who harboured bacilli in the skin were in the stage of infection, when the bacilli must exist for some time in the skin of these individuals before lesions developed. Examination of presumably non-contacts, 1,520 in number, revealed positive bacillary findings in only 79 (5.2%) at the first examination. In 43 of those in whom re-examination was possible, only 6 (0.4%) were positive at the second examination. The difference between 5.2% positives among these as compared to the 31% positives among the contacts is thus significant.

In the course of the next few years sufficient data could be collected enabling us to publish our findings (positive Bacillary findings in the skin contacts of Leprosy cases-1949). This was later followed up by a study of the results of the relationship of the positive bacillary findings in such contacts to Lepromin Reaction (Lepromin Test with Particular Reference to positive Bacillary findings in contacts-1952).

We were, however, conscious of the inadequacy of even the section method of bacteriological examination for this purpose. In consequence, after a trial of several chemicals, we succeeded in evolving a simple laboratory technique to extract bacilli from the skin tissue. The Chloroform extraction method (1952), which was subsequently used in this investigation.

The contacts thus examined were kept under surveillance, and wherever, possible, were examined periodically to observe their pre-clinical and clinical phases. They were tested with Lepromin for their immunological response. The lepromin used was of the Dharmendra type partly defatted Lepromin prepared at the clinic of the Acworth Leprosy Home.

The contacts who were negative for bacilli were also negative to lepromin and were called negative or uninfected contacts. Those who were positive for bacilli were also positive to lepromin in the vast majority of cases. These were called positive or infected contacts. The lepromin test which was negative in some of the positive contacts became positive after a period of time; these findings indicated a definite relationship between infection and lepromin reactivity.

* Paper read at the IVth All India Conference of Dermatologists & Venereologists 1962, Bombay.

Some of these positive contacts, and later on, some of those from them who developed lesions were examined histologically by Dr. Khanolkar (Studies in the Histology of early Lesions of Leprosy 1951). In the stage of infection or the latent phase of the disease as he called it, he demonstrated phagocytic cells, designated by him "Fuchsinophil Cells", is the process of ingesting and digesting the bacilli.

The developmental phases of leprosy that have been observed on the follow up of 424 contacts are summarised below :

1. Observation over a period of 7 years revealed that about 35% of the negative contacts show bacilli after an average period of 2 years repeatedly in the skin and at this stage develop lepromin positivity in the vast majority of cases.

2. About 25% of the positive contacts, who are also lepromin positive, develop in an average period of $1\frac{1}{2}$ years, circular, flat or slightly raised, hypopigmented or pink areas, 0.5 c. m. to 1 c. m. in diameter, without sensory changes. Biopsies from such lesions show bacilli by special technique and the lepromin test is also positive at this stage. These were therefore called Primary Lesions.

3. About 50% of the Primary Lesions develop sensory impairment in an average period of $1\frac{1}{2}$ years and later progress into either the Tuberculoid or Indeterminate lesions and the lepromin test continues to be positive.

4. Some of the primary lesions remain static for a variable period of time from 1 to 5 years.

5. Some of the positive contacts become negative for bacilli, but continue to be positive to lepromin for a period of 1 to 2 years.

6. In some the primary lesions disappear, but bacilli are still formed for a period up to 1 year; the lepromin test continues to be positive.

7. In some the primary lesions disappear, and the bacilli also disappear in an average period of 1 year. In such cases the lepromin reaction tends to diminish.

8. It has not been possible to trace the development of lepromatous lesions to any of the stages so far. It is presumably later than primary lesions stage that the lepromin positivity breaks down and the lepromatous lesions develop.

The following tables give the details of the follow up of 248 contacts of the tuberculoid and 176 contacts of the lepromatous infectors respectively over a period of 1 to 7 years. The status of 2,454 contacts at their first examination is also shown in a separate table.

STATUS OF 2454 CONTACTS AT THE FIRST EXAMINATION

Status of the Contacts and their number	Contacts of		Total	Percentage
	Tuberculoid Infectors	Lepromatous Infectors		
Leprosy Cases	T : 226	298	581	23.7
	L : 15	42		
	Total	241		
N. C.	675	327	1002	40.8
P. C.	426	332	758	30.9
P. L.	70	43	113	4.6
Total	1412	1042	2454	

Percentage of Leprosy Cases among Contacts of Tuberculoid Infectors : 17.

Percentage of Leprosy Cases among Contacts of Lepromatous Infectors : 32.5.

Total Contacts followed up for 1—7 years.

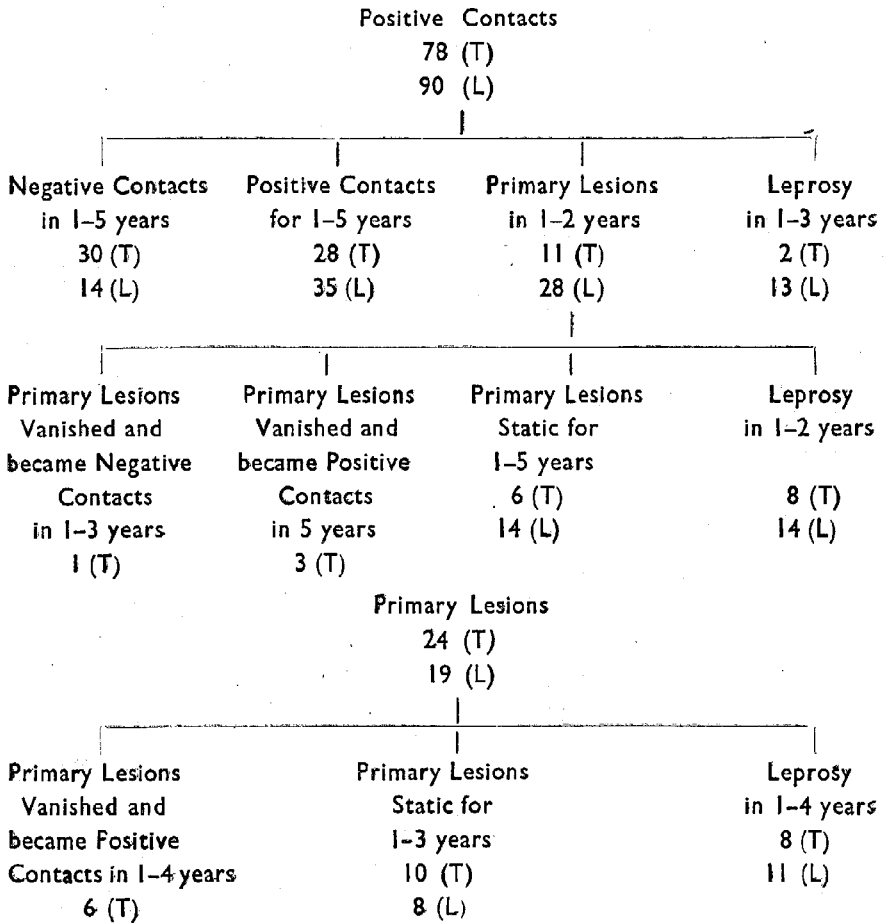
248 (T) 176 (L)

Negative Contacts

146 (T)

67 (L)

Negative Contacts for 1—5 years	Positive Contacts in 1—3 years	Leprosy in 1—6 years	
89 (T)	54 (T)	3 (T)	
24 (L)	28 (L)	15 (L)	
Negative Contacts in 1—2 years	Positive Contacts for 1—3 years	Primary Lesions in 1—3 years	Leprosy in 1—3 years
4 (T)	37 (T)	13 (T)	
3 (L)	18 (L)	5 (L)	2 (L)
Positive Contacts in 1—3 years	Primary Lesions Static for 1—5 years	Leprosy in 2 years	
Primary Lesions Vanished 2 (T)	3 (T)	8 (T)	
1 (L)		4 (L)	



OUR GREETINGS

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24-12-1962

—Managing Editor.