THE LEPROMIN REACTION IN TUBERCULOID REACTION CASES

(Continued)

To The Editor:

Some time ago there was a lesser symposium in The Journal [**24** (1956) 86] about the weakening or abolition of responsiveness to lepromin in tuberculoid cases during clinical reactions. The specific question was whether or not a patient with tuberculoid leprosy who was *strongly reactive* to lepromin before the clinical reaction would become *completely nonreactive* during that condition. However, certain of your correspond-

ents showed interest in the more general question of depression of lepromin reactivity of any degree during clinical reactions.

Besides the contributor (Rodriguez) whose opinion had led to the inquiry, there were two others (de Souza Lima and Schujman) who believed that strong reactors would not become completely negative. One (Fernandez) said it could happen, and another (Basombrio) gave data on a group of cases which comprised two previously strong reactors who did become negative. It is obviously the weak reactor, however, who is likely to lose his reactivity, while on the other hand lepromin reactivity is not always affected in clinical reactions. Fernandez said that "...in many cases, the lepromin reactivity is not at all modified during the reaction;" and of the 74 cases listed by Basombrio, 15 had shown no change of reactivity.

We have long been interested in problems of the lepromin reaction in tuberculoid cases, and have recently had occasion to review the findings in clear-cut cases of that type dealt with in two of our studies, comparing the results in bacteriologically negative and bacteriologically positive cases. In both studies the patients were adults, and in each instance the strength of the antigen used was constant. With each separate test, therefore, the important variable factor was the reactivity of the individuals.

A large proportion of the bacteriologically negative cases were nonreactional, and for convenience that group is so designated, although there were some cases with mild clinical reactions; the bacteriologically positive cases were in strong clinical reaction. If it were feasible to transfer the cases in mild reaction from the former to the latter group, it would probably serve only to increase to some degree the differences between the two that were found. The antigens used were, (*a*) E. Mabalay's variation of lepromin; (*b*) Wade's standard lepromin; and (*c*) Wade's purified bacillus suspension (a preparation which commonly gives somewhat weaker reactions than the regular lepromin, as shown in a report in preparation).

The patients tested with the Mabalay lepromin were given only the single test injection. The two Wade preparations were compared by means of simultaneous injections in contralateral sites in the same patients. The late reactions were read, as recommended by the WHO Committee: less than 3 mm., negative; 3-4 mm., doubtful (±); >4-7 mm., weakly positive (1+); 8-9 mm., moderately positive (2+); and 10 mm. or larger, or any with ulceration, strongly positive (3+). The results are shown in the following tabulation.

In the group of patients tested with the Mabalay lepromin there was a marked difference in the results given by the bacteriologically negative and positive patients. Of the former none was negative, while of the latter were 2 negative. It cannot, of course, be said how reactive to lepromin the two nonreactors might have been before the tuberculoid reaction occurred, but with lepromins we use typical tuberculoid cases are

almost always positive in some degree. If the nonreaction cases had contained negatives in the same proportion, they would have had 11 of them.

More significant, probably, is the fact that none of the bacteriologically positive patients gave a strong Mitsuda reaction, against 30 per

Degree of late (Mitsuda) reaction	Group 1, Mabalay		Group 2, Wade standard[a]		Group 2, Wade PBS[a]	
	Nonreactional tuberculoid (B−, 105 cases)	Reactional tuberculoid (B+, 19 cases)	Nonreactional tuberculoid (B−, 35 cases)	Reactional tuberculoid (B+, 11 cases)	Nonreactional tuberculoid (B−, 35 cases)	Reactional tuberculoid (B+, 11 cases)
Negative	–	2 (10.5%)	–	–	–	–
Doubtful, ±	5 (4.8%)	2 (10.5%)	1 (2.9%)	1 (9.1%)	4 (11.4%)	1 (9.1%)
Weak, 1+	54 (51.4%)	13 (68.5%)	13 (37.1%)	7 (63.6%)	19 (54.3%)	7 (63.6%)
Moderate, 2+	14 (13.3%)	2 (10.5%)	10 (28.6%)	1 (9.1%)	6 (17.1%)	1 (9.1%)
Strong, 3+	32 (30.5%)	–	11 (31.4%)	2 (18.2%)	6 (17.1%)	2 (18.2%)
2+ & 3+	46 (43.8%)	2 (10.5%)	21 (60.0%)	3 (27.3%)	12 (34.2%)	3 (27.3%)

a Tests with both antigens made simultaneously in 35 nonreactional and 11 reactional cases.

cent of the bacteriologically negative cases—at which rate 6 of the 19 in the former group should have reacted strongly if their condition had not affected their responsiveness.

The same trend is seen in the group tested with the regular Wade lepromin, although to a lesser degree. None of the bacteriologically positive cases was entirely nonreactive (which may have been simple chance), but 2 of them gave strong reactions—which of course may also be dismissed as due merely to chance, although we are not inclined to do so. The whole picture, including the 27.3 vs 60.0 percentages of combined stronger reactions, suggests that there was a distinct difference in the two lots of patients.

Why the cases in strong reaction tested with the PBS antigen showed no material difference in results from the cases in the other group we are not prepared to say. Only a preliminary study has been made with that preparation as yet.

On the whole, the data obtained from separate testing of groups of nonreactional and reactional tuberculoid patients—the latter groups unfortunately small—are entirely in keeping with the general experience that there is usually a lowering of lepromin reactivity during clinical reactions, but not frequent negativization.

Our figures suggest that the statistics of the matter, and the over-all experience of different workers, may be affected by a factor which, to our knowledge, has seldom been considered, namely, differences of effectiveness of different preparations of lepromin of the classical Hayashi-Mitsuda type.

Leonard Wood Memorial Epidemiology Unit RICARDO S. GUINTO
Cebu, Philippines MARIO C. MABALAY