DISCUSSION: COMPARATIVE STUDY OF THE 48-HOUR RESPONSE TO SOLUBLE ANTIGENS OBTAINED FROM HUMAN AND ARMADILLO LEPROSY MATERIAL IN LEPROMATOUS LEPROSY PATIENTS AND NORMAL PERSONS, CONTACTS OF LEPROSY PATIENTS

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We have analyzed a comparative study of the 48-hour response to antigens prepared with human leprosy material and armadillo leprosy material.

The concentration of the antigen in both cases was of 160×10^6 acid-fast bacteria per milliliter, and we used the supernatant obtained by centrifuging these antigens two hours at 292.000 x g. The supernatant was then filtered through a Millipore filter, 0.45 microns pore size.

The supernatant was precipitated with 80% ammonium sulphate and the precipitate was resuspended in physiological saline, dialyzed against saline until all the ammonium sulphate was eliminated and adjusted to the original volume of the supernatant. It was then filtered once more, for sterilization.

The concentration of proteins, determined by Lowry's method, was of 1.8 mg for human antigen and 0.5 mg for armadillo antigen.

With these antigens we tested 46 lepromatous patients, of which 24 had active lesions and 22 had become bacteriologically negative after sulfone treatment. We also tested 57 normal persons, employees of the Cabo Blanco Leprosarium, who have lived in close contact with the patients for several years.

The scale with which we read the tests was the following:

0 - 9 mm	negative
10 - 14 mm	+
15 - 19 mm	++
20 and more	+++

The reading was done on the basis of the infiltration and erythema, measured with a plastic ruler, across the central diameter of the reaction. The Table that follows shows the results of the tests.

STUDY COMPARING THE 48-HOUR TEST WITH ANTIGEN FROM M.LEPRAE OBTAINED FROM HUMAN MATERIAL AND M.LEPRAE FROM ARMADILLO MATERIAL

PERSONS TESTED	ARMADILLO ANTIGEN				HUMAN ANTIGEN			
	POSITIVE			NEG.	POSITIVE			NEG.
	+	++	+++	-0-	+	++	+++	-0-
ACTIVE LEPROMATOUS PATIENTS	0	0	0	24	0	0	0	24
LEPROMATOUS PATIENTS BACTERIOLOGICALLY NEGATIVE AFTER SULPHONE TREATMENT	0	0	0	22	0	0	0	22
NORMAL PERSONS EMPLOYEES OF CABO BLANCO LEPROSARIUM	8	17	22	10	6	13	29	9

COMMENTS

Study of the results obtained shows completely negative responses of the tuberculin-type test with the two antigens in the lepromatous patients, both in those who were bacteriologically negative after several years of sulfone treatment and in those who had active lesions.

The normal employees are close contacts of the patients because they have been working for a long period at the Leprosarium where these patients are hospitalized; their ages ranged from 20 to 68 and they belonged to both sexes. The response was positive in 80% with human antigen and in 82 % with armadillo antigen. Of the negative responses, there is one less negative response in the group tested with armadillo material. This person gave a 7 mm response with human material and a 10 mm response with armadillo material which is barely the limit of positivity. In most of the contacts who gave negative responses the negativity was not absolute, but varied between 0 - 9 mm.

With the purpose of studying some of the properties of the antigen, we treated part of it with 0.5% trypsin during 30 minutes at 37°C. This trypsin treated antigen did not give any type of response in persons who gave positive 48-hour responses to the control test with untreated antigen. This seemed to show that the antigen was a protein.

SUMMARY

We prepared antigens by precipitating with 80% ammonium sulfate supernatants of human and armadillo antigen at a concentration of 160 x 10^6 bacteria per ml. The precipitate was resuspended, dialyzed and filtered.

The antigen obtained was inactivated with trypsin during 30 minutes.

The tests made with these antigens were negative for the 48-hour test in lepromatous patients and highly positive in normal persons who were contacts of leprosy patients.

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