

ABSTRACT

Antitoxin and Vibriocidal Responses in the Toxoid Field
Trial Serologic Survey

by

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As part of the overall field trial of Wyeth 21201 Cholera Toxoid, each volunteer from every 33rd family included in the field trial was bled by finger-stick for assessment of vibriocidal and antitoxin antibodies. Samples were collected as one hundred lambda of finger-stick whole blood and diluted in 900 lambda of sterile normal saline in the field. The blood cells were spun down from this initial one to ten dilution. Diluted serum was decanted and frozen until assay for vibriocidal activity using the micro-titer technique and antitoxin titer using haemagglutination.

Overall, the data paralleled previous reports from this laboratory. Vibriocidal levels in both the toxoid and placebo groups were similar in each age group. Younger children had lower vibriocidal titers than did older children or adults and younger children had higher antitoxin titers than older children and adults. The vibriocidal response of placebo immunized patients did not change significantly confirming the observation of others that the toxoid contained little, if any, somatic antigen. Geometric mean antitoxin titers were considerably lower than titers observed in the preliminary studies of a similar toxoid one year earlier in village Meharan, although average titers were considerably elevated over baseline.

The haemagglutination technique for assay of antitoxin proved to be an efficient although rather insensitive test. Because of the low level of sensitivity (in the neighborhood of 12 antitoxin units per ml.) the estimates of geometric mean titers for the baseline period are not available. However, sufficiently high antitoxin titers were developed in each of the three age groups in response to two injections of toxoid to confirm adequate elevation of antitoxin antibodies.

PROCEEDINGS OF THE 9TH MEETING OF THE SCIENTIFIC
REVIEW AND TECHNICAL ADVISORY COMMITTEE OF
THE CHOLERA RESEARCH LABORATORY

and

REPORTS OF THE COLLABORATIVE STUDIES BETWEEN CENTER
FOR MEDICAL RESEARCH AND CHOLERA RESEARCH
LABORATORY

For the
YEAR 1974

Dacca, Bangladesh