Dr. Aims C. McGuinness, Secretary
American Pediatric Society
237 Medical Laboratories,
University of Pennsylvania
Philadelphia 4, Pennsylvania

Dear Dr. McGuinness:

Enclosed is a copy of an abstract of the paper "An Evaluation of the Efficacy of Gamma Globulin in the Prophylaxis of Paralytic Poliomyelitis" which we are submitting for consideration for presentation at the meeting of the American Pediatric Society at Buck Hill Falls, Pennsylvania, May 3-5, 1954.

Dr. Albert B. Sabin has kindly consented to sponsor this paper. We greatly regret that, for reasons which Dr. Sabin probably mentioned to you, we were unable to submit this abstract prior to the deadline of February 23. We hope, however, that it will be possible for you to review the abstract despite this delay.

Sincerely yours,

Heinz F. Eichenwald, M.D.
Acting Director
National Evaluation Center
Gamma Globulin Program

cc: Dr. Albert Sabin

HFE: mal
ABSTRACT

AN EVALUATION OF THE EFFICACY OF GAMMA GLOBULIN
IN THE PROPHYLAXIS OF PARALYTIC POLIOMYELITIS

By

Heinz F. Eichenwald, M.D., 1 Abraham M. Lilienfeld, M.D., M.P.H. 2
and Alexander D. Langmuir, M.D., M.P.H. 3

Introduced by
Albert B. Sabin, M.D.

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*A study, sponsored by the Communicable Disease Center, Public Health Service, U.S. Department of Health, Education and Welfare, Atlanta, Georgia, in collaboration with the Association of State and Territorial Health Officers, the American Physical Therapy Association, and the D.T. Watson School of Physiatrics, affiliated with the University of Pittsburgh School of Medicine.

1Epidemic Intelligence Service Officer, C.D.C., Atlanta, Georgia; Markle Scholar in Medical Science on military leave of absence.

2Assistant Professor of Epidemiology, Johns Hopkins University, School of Hygiene and Public Health, Baltimore, Maryland; consultant to C.D.C.

3Chief, Epidemiology Branch, C.D.C., Atlanta, Georgia.
In 1953, a nationwide effort was made to collect the maximum amount of information concerning the efficacy of gamma globulin when used as a public health measure in the attempted prophylaxis of paralytic poliomyelitis. The study was planned by an advisory committee of 17 authorities on poliomyelitis and was carried out with the full collaboration of the health departments of 41 states and 4 large cities.

Detailed epidemiologic descriptions were obtained from each of the 23 epidemic areas where mass inoculations were given. In 5 of these communities, measurements of the severity of paralysis were made by specially trained physical therapists on 43 cases developing within one week before the mass inoculations and on 48 cases having onsets following the mass administration.

The most extensive aspect of the program was the study of multiple case households throughout the country. The severity of paralysis in subsequent cases was studied in relation to whether or not gamma globulin had been received and when given in relation to onset.

The results failed to demonstrate a beneficial effect of gamma globulin.

In 13 of the 23 epidemic areas, gamma globulin was given so late or the population group was so small that no effect could be expected to be demonstrable. In the remaining 10 outbreaks, which occurred in larger communities, gamma globulin was given at or near the peak in only 3 instances. No consistent deviations from the classical patterns of
poliomyelitis epidemics were discernible that could be attributed to a beneficial effect of the gamma globulin administration. The severity of paralysis in the selected groups of cases developing immediately before or after mass administration in the 5 areas, showed no differences that suggested a definite modifying effect of gamma globulin.

From the 749 multiple case households studied, 897 subsequent cases were available for study. Detailed statistical analyses were limited to a refined group of 415 subsequent cases consisting of those white patients, 1 to 29 years of age with definite paralytic poliomyelitis, occurring subsequent to a definite paralytic index case. Of these 415 cases, 158 received gamma globulin before onset, 184 received no gamma globulin, and 73 received it on or after onset.

The administration of gamma globulin to familial associates of patients with poliomyelitis had no significant influence on: (1) the severity of paralysis developing in subsequent cases; (2) the proportion of nonparalytic poliomyelitis occurring in subsequent cases who received gamma globulin before onset; and (3) the classical pattern of familial aggregation of cases in the country at large.