PUBLIC HEALTH

Polio Protection Progress

New vaccine made with attenuated virus gives promise of being effective and gamma globulin from human blood shows up well on mass trial.

Hope grows that children in the future can be protected against the crippling and killing disease, infantile paralysis. On this and the facing page is the latest budget of good news.

Last week (SNL, Oct. 25) an experiment was reported indicating that a vaccine could be given by mouth to protect against polio.

PUBLIC HEALTH

Gamma Globulin Halves Chances of Paralysis

➤ GAMMA GLOBULIN from human blood can more than cut in half the likelihood of children's getting paralytic polio. The protection it gives lasts at least five weeks and is effective against all three known polio viruses.

These results from trials involving 55,000 children were announced by Dr. William McD. Hammon of the University of Pittsburgh at the meeting of the American Public Health Association in Cleveland, Ohio.

The trials were made in Harris County, Texas, and Woodbury County, Iowa-Dakota County, Nebraska, this past summer and in Provo, Utah, in the summer of 1951.

Of all the children given injections, 90 developed paralytic polio. Of these, 26 were children who got gamma globulin and 64 were children who got a harmless, inactive gelatin injection. This gelatin was given to half the children in the trials, but no one knew until results were tabulated which child got gelatin and which gamma globulin.

The difference between the two groups is "statistically significant" in showing the effectiveness of gamma globulin for protecting against paralytic polio, Dr. Hammon said.

In the first week following the injection, almost as many cases occurred in the gamma globulin group as in the gelatin, or control, group. But the cases in the gamma globulin group were mild and within 30 days half the children had recovered completely. None in the control group had recovered within 30 days.

During the second week the difference was marked. Only three children in the gamma globulin group got paralytic polio compared to 23 in the control group. From the second through the fifth week only six cases occurred in the gamma globulin group, but 38 in the control group.

The gamma globulin was furnished by the American Red Cross. It was prepared from blood collected during World War II from tens of thousands of blood donors all over the country. It is the first material that has been scientifically proved to be effective in preventing human paralytic polio.

The present supply of this material for polio prevention is extremely limited and completely inadequate to meet the expected needs, Dr. Hammon said.

Enough for "reasonable use" will be available, Dr. Hammon believes, if public cooperation in giving blood comes up to the cooperation he found in making the field trials of the material for polio prevention.

These field trials, largest in medical history, were made possible by a grant of $1,000,000 in March of Dimes funds from the National Foundation for Infantile Paralysis.

Questions still to be answered about gamma globulin as a polio preventive are: Is protection good for only five weeks? Can this period be extended by increasing the dose or by a second injection? And, most important of all, does gamma globulin let the child get a harmless, unapparent polio infection that will give him permanent immunity to the disease?

Associated with Dr. Hammon in the trials and report of them were Drs. Lewis F. Coriell of the Camden, N. J., Municipal Hospital, Paul F. Wehrle of the U. S. Public Health Service, Christian R. Klimt, Rockefeller Foundation fellow, and Joseph Stokes, Jr., of the Children's Hospital and University of Pennsylvania, Philadelphia. Local doctors and nurses in the test areas assisted Dr. Hammon's test teams in the trials.

Complete details of the trials appear in a report in the *Journal of the American Medical Association* (Oct. 25).

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PUBLIC HEALTH

Vaccination Against Polio Passes Satisfactory Test

➤ A NEW vaccine against poliomyelitis has now had its first trial on children. Results which can be called definitely gratifying were reported by Dr. Howard A. Howe of Johns Hopkins University, Baltimore, at the meeting of the American Public Health Association in Cleveland, Ohio.

The vaccinated children did not get poliomyelitis, but this is not what showed the value or promise of the vaccine. The children were specially picked because there was almost no chance of their being exposed to polio.

They were vaccinated in a test to answer this important question: Do human beings respond in the way chimpanzees and monkeys do to vaccination against polio?

The answer is Yes. As a result, Dr. Howe and associates and the National Foundation for Infantile Paralysis, which helped support the study, are encouraged to go ahead in an effort to make a still better vaccine and to find a way to produce it in large quantities.

There is hope now, however, that this time the dream of vaccination against poliomyelitis, or infantile paralysis, is really coming true. Then it may be possible to give children lasting immunity to the disease instead of the temporary immunity hoped for from current trials of blood's gamma globulin.

Vaccines against polio are not new. In 1935 and 1936 anti-polio vaccines were made and given to children during an epidemic. One of these was made with living polio virus. Some of the vaccinated children got infantile paralysis and it was impossible to say that these cases had not been caused by this vaccine.

The other vaccine was made from polio virus treated with formalin to destroy its power to cause disease. This vaccine seemed safe enough, but no adequate tests of its effectiveness were carried out.

In those days scientists did not have as good ways to measure protection against polio as they have now, and they did not know that there are three different types of polio virus. Vaccine made from one type will not protect against the others, at least in laboratory experiments. Dr. Howe's vaccine is made to protect against all three types, Lansing, Leon and Brunhilde. The viruses in it are treated with formalin so they will not cause infection, though they keep their power to immunize.

Knowing the measure of a vaccine's protective power against polio is not just a