

MEDICINE

Polio Conquest Coming

Use of polio vaccine expected to reduce the number of virus carriers in the population, leading to the day when poliomyelitis may be almost entirely eliminated.

► THE CONQUEST OF POLIO may be coming faster than is generally realized, reports to the American Medical Association meeting in Chicago showed.

Vaccination against polio may do more than reduce the number of cases of paralytic polio, Dr. Jonas E. Salk of the University of Pittsburgh pointed out in discussing the latest findings on the vaccine he developed.

It may limit or prevent infection with polio virus, thus reducing the number of virus carriers who constitute a reservoir in the population.

This possibility appears from the finding that, in vaccinated persons, even after detectable antibodies to polio virus have disappeared, there is still a state of hyper-reactivity. This state calls forth antibody development so fast after exposure that invasion of the brain or spinal cord may be blocked.

This can happen even though the virus may have infected the throat or intestinal tract.

That this may happen is shown by the reduction in the summer of 1955 not only of paralytic, but also of non-paralytic, polio in vaccinated persons.

Polio virus invades the blood stream through the throat or intestinal tract. It may then retrace its steps and invade previously uninfected parts of the throat or intestinal tract and be excreted from the body. If antibodies, developed as a result of vaccination, can block this secondary invasion, vaccinated persons would be less

infectious for others. This point was brought out by Dr. David Bodian of Johns Hopkins University, Baltimore, Md.

In addition, unvaccinated parents of young children would therefore be protected.

The importance of this appears from a report by Dr. John H. Paul of Yale University, New Haven, Conn.

The change in age at which polio now attacks in the United States, he said, may be due to the fact that young parents are heavily exposed to the infection in their young children, even when the children are not sick with polio.

Safety testing of polio vaccine may become even better in the future, Dr. Bodian said. The monkeys used in the testing can be treated with cortisone to make them more susceptible to the polio virus. Being more susceptible, they will be more sensitive to small amounts of it that might have escaped inactivation and still be in the vaccine.

Vaccine Reduced Cases

► THE POLIO VACCINE reduced paralytic polio among vaccinated children "at least 75%" last year, Dr. Leonard A. Scheele, Surgeon General, U. S. Public Health Service, reported at the American Medical Association meeting in Chicago.

At the same time, he urged doctors to continue vaccinating children all summer as supplies become available.

The polio season lasts many months, he said, and for the country as a whole will not begin its slow decline until about September.

"Vaccine given in July and August will prevent paralytic cases and even deaths in August and September," Dr. Scheele said.

Larger releases of vaccine during the coming months are expected, he said. He also gave reassurance on the safety of currently produced vaccine.

"Since last May, when vaccine was first released under the revised safety standards, there has been no epidemiologic evidence that any lot of vaccine of any manufacturer has been unsafe," he said.

"This reassuring conclusion is drawn from the study of data on each reported case, mechanically sorted and tabulated according to the lot number of the vaccine, date and site of injection, site of first paralysis, and dates of onset of the disease and of paralysis. Special attention has been directed toward cases which occur within 30 days of inoculation and to paralytic cases showing first paralysis at the site of injection.

"From over 40,000,000 inoculations, there

has been no more than one case in any one lot which could have been regarded as suspicious in any way. This is well within the limit of expected coincidence when size of lot, geographic distribution, and amount of polio in the area at time of use are considered."

The vaccine, he noted, is not claimed to be 100% effective and some cases of polio can be expected to develop in vaccinated persons.

The figures on the effectiveness of the vaccine last year came from studies by 22 states and New York City involving over 8,500,000 vaccinated and unvaccinated children.

The over-all attack rate among the vaccinated, most of whom had only one injection, was 6.3 per 100,000. The rate among the unvaccinated was 29.2 per 100,000.

Science News Letter, June 23, 1956

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