

MEDICINE

Test Drug on Human Polio

New sulfa drug, phenosulfazole, for the first time has been given to human victims of the disease to study its effect. Five research teams are cooperating.

► AN EXTENSIVE TEST of the new anti-virus sulfa drug, phenosulfazole, upon human patients suffering from infantile paralysis is underway through cooperation of five research teams in New York, Texas and North Carolina. This was announced officially by Columbia University.

Although no results upon human cases were reported, the new drug was stated to have "successfully halted a polio virus in the mouse" in a series of investigations at Columbia University and the Lederle Laboratories.

How for the first time a virus disease in mice was successfully attacked by a man-made chemical is being told in a scientific report by Dr. Murray Sanders, associate professor of bacteriology at Columbia, and his associates, appearing in the fall issue of *TEXAS REPORTS ON BIOLOGY AND MEDICINE*.

Because of the successful use in mice, the study of the drug's effect on actual cases of human poliomyelitis was begun. The groups now working are at the College of Physicians and Surgeons of Columbia University, the Medical Branch of the University of Texas, the Knickerbocker Hospital in New York City, the Jeff Davis Hospital at Houston, Tex., and the Bowman Gray School of Medicine at Wake Forest College, N. C. (See *SNL*, July 21).

Why victims of poliomyelitis did not receive the new medication during the "vicious poliomyelitis season" from which we are emerging is explained in a statement by Dr. Sanders.

"There are hundreds of families throughout the United States," said Dr. Sanders, "which have suffered terrible losses through death or paralysis of one or more of their members. The sole purpose of this statement is to assure these people that they have not been victims of professional neglect."

Dr. Sanders explained further that polio is a disease with tremendous clinical variability. To investigate properly the therapeutic value of a substance in poliomyelitis, he said, requires a test involving hundreds of cases of the disease studied in the most critical fashion.

"We do not know what effect Darvisul (trade name for phenosulfazole) has on human poliomyelitis," Dr. Sanders continued. "Premature claims for a 'polio cure' are not only unjustified but under present circumstances cruel."

"Drug No. 2," as it has been known since the mouse tests began in September, 1947, had three dramatic results in the mouse: 1. The drug cured in the early stages of the disease. 2. Mice that survived

were immune to reinfection. 3. When the drug was given in a single dose orally, it prevented infection.

The drug does not act directly on the mouse virus, but appears to react on the tissue cell itself. This encouraged the researchers to intensify their efforts because it indicated that the compound would be able to change the physiology of the cell without destroying it, at the same time making it an unsatisfactory site for virus growth.

No ill effects were caused by the drug, although heavy doses (five grams per kilogram of body weight over five days) were given. This lack of toxicity is one of the most important qualities of the drug.

Associated with Dr. Sanders were the late Dr. Yellapragada SubbaRow, Lederle director of research who died Aug. 10, and Mrs. R. C. Alexander, research assistant at Columbia.

Darvisul was the result of a program initiated by Dr. SubbaRow. As a first step, workers at the Calco Division, American Cyanamid Company, in Bound Brook, N. J., synthesized numerous compounds. The team responsible for the synthesizing of Darvisul was composed of Dr. M. E. Hultquist and Dr. Robert Parker.

Once the compounds were synthesized, they were sent to the Lederle Laboratories at Pearl River, N. Y. There, under the direction of Fritz Popken and Miss Kath-

leen Richards, scores of tests were used to determine whether Darvisul and the other compounds possessed anti-viral activity.

The synthetics which showed promise were then given to the College of Physicians and Surgeons, 168th Street, where Dr. Sanders and Mrs. Alexander tested them exhaustively against viruses which affected the nervous system.

The strain of virus selected for use in the study was a mouse virus originally isolated in 1940 at Columbia by Dr. Sanders and Dr. Claus W. Jungeblut.

Scientific therapeutic agents against true animal or human viruses have not heretofore been available.

Darvisul is a white powder which goes into solution only with difficulty. When it was realized in the early stages of the study that the powder was not sufficiently absorbed by the body of the animal, a sodium salt of the drug was made. This salt proved to be soluble, non-toxic and generally satisfactory as an injectable material.

The effect of the drug on 100 macacus rhesus monkeys infected intracerebrally with a human strain of poliomyelitis has also been studied, Dr. Sanders said. Results of this study will be published later.

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ZOOLOGY

British Make U. S. Gift Of Strange Animals

See Front Cover

► THE DORMOUSE, known to thousands of Americans only through children's books by British authors, has arrived in the U. S.

Dr. William Mann, director of the National Zoological Park of the Smithsonian



STAMP FOR RED CROSS FOUNDER—A commemorative postage stamp honoring Clara Barton was issued Sept. 7. Ceremonies were held at her birthplace at Oxford, Mass., the day the stamps went on sale.