

MEDICINE

Prevent Common Colds

An experimental inhalant called viractin, derived from the antibiotic actidione, may be the answer to control of colds and other upper respiratory infections—By Faye Marley

► **COLDS AND OTHER** upper respiratory infections have been prevented by use of a new experimental inhalant not yet on the market. A Washington biochemist, Dr. Byron E. Leach, has been working on the preparation, called viractin, since 1946. Its most recent clinical testing was conducted this year at the Veterans Administration Center, Biloxi, Miss.

Dr. Leach told **SCIENCE SERVICE** that he first noticed the activity of viractin when he was working with the Upjohn Company in Kalamazoo, Mich., on the isolation of actidione. Actidione is an antibiotic derived from *Streptomyces griseus*, and is active against certain yeasts and fungi.

Clinical tests at Upjohn were not successful enough to be continued, but later when Dr. Leach was working in New Orleans in the department of psychiatry and neurology, Tulane University, he obtained from Upjohn enough residues of actidione mother liquors to distill viractin concentrate. With Dr. Lawrence W. Byers, another biochemist at Tulane who collaborated with this work, Dr. Leach did a preliminary study with neurological and psychiatric patients.

Viractin was evaporated from cotton balls at room temperature in two wards of approximately 80 patients each for five months. The cotton balls were replenished with viractin concentrate every two weeks. These patients escaped an Asian flu epidemic in

the hospital during the test period, while 47 of 112 patients in control wards got acute attacks of flu.

At the Gulfport Division, Veterans Administration Center, working with Dr. Pearl E. Hackman, Drs. Leach and Byers did the 1964 study with 310 patients in four sleeping wards. Viractin was put on cotton gauze squares which were placed strategically in the rooms. Every 14 days, the gauze squares were replaced.

Comparing these patients with 320 others in wards where placebo, or inactive materials, had been used, the researchers found no upper respiratory infections of the usual five or more day variety among the viractin-treated patients, while 11 of the others had upper respiratory infections.

Other research, conducted with families, indicates that the use of viractin in the bedroom is sufficient in preventing upper respiratory infections.

In both preliminary work done with animals and the present studies of man, no toxic symptoms have appeared.

Full details of the research are reported in *Nature*, 204:788, 1964.

Dr. Leach, who is at present working with the U.S. Department of Agriculture, said that an application for licensing by the Food and Drug Administration would be made after additional tests were completed.

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MEDICINE

Foresee Cold Vaccine

► **PROMISE** for the possible development of preventive vaccines against many types of the common cold is seen in cultures of diploid human cells. Diploid human cells contain the normal two sets of chromosomes that carry the genes.

Such cell strains have had only guarded experimental use in the United States, said Dr. Maurice R. Hilleman, director of virus and cell biology research at the Merck Institute for Therapeutic Research in West Point, Pa. They have received special attention from the World Health Organization of the United Nations, however, as well as from the International Association of Microbiological Societies.

Diploid cells permit the growth of viruses that cannot now be grown in animal cells, Dr. Hilleman stated in the *American Review of Respiratory Diseases* 90:683, 1964.

This could pave the way, he said, for the development of killed and live virus vaccines, especially the rhinoviruses, which are a principal cause of the common cold and for which there is no specific control.

Serial growth of diploid cells is accomplished in bottles in the laboratory without

need to resort to human tissue. The potential number of cells that can be obtained from a single culture is extremely high, so the method is potentially capable of yielding very large amounts of viral antigen when used for vaccine preparation.

Another advantage of diploid cells, Dr. Hilleman said, is their freedom from contamination by undesirable viruses naturally present in many animal cultures.

"In fact," he said, "had such cells been available in the earlier period, it is problematical whether monkey kidney cells would have been chosen for preparing poliovaccines and more recently developed vaccines."

"The diploid and other cells of normal quality remain a bright hope for the future for both killed and live vaccines, following the necessary years of controlled application in man or on an experimental basis."

Commercial vaccines must await further clinical trials that confirm the safety and efficacy of the diploid cell method.

Dr. Hilleman is hopeful that cancer and a variety of diseases may be proved to be virus-caused.

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Beckman Instruments, Inc.

SENSITIVE ELECTRODE — *This new device, a research electrode that can measure electrical current off body tissues in millionths of a volt readings, is designed for use during surgery and in advanced research projects to monitor and record tiny electrical signals generated by brain, heart and muscle tissue.*

MEDICINE

Birth Control Pills Do Not Cause Clots

► **LOW INCIDENCE** of thrombophlebitis, or blood clotting in the veins, in women who took the birth control pill Enovid for at least two years, was reported at a chemists' meeting in Washington, D.C.

Dr. Irwin C. Winter, director of clinical investigation for G. D. Searle and Company of Chicago, manufacturers of Enovid, told an Alpha Chi Sigma meeting that only eight new cases of thrombophlebitis occurred in 5,000 patients, a ratio "very nearly equivalent to the lowest incidence of thrombophlebitis ever reported in a similar population of women."

Most figures for women in a similar age group are well over one case per 1,000, but the Enovid-takers' thrombophlebitis cases were less than six-tenths of a case per 1,000 a year.

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DENTISTRY

Billion Teeth Fillings Needed in United States

► **THERE ARE PROBABLY** a billion unfilled cavities in the teeth of men, women and children in the United States, the National Institute of Dental Research, Bethesda, Md., estimates.

Their statistics also show that half the children under 15 years of age in this country have never been to a dentist, and more than 100 million persons have lost teeth because of diseases of the gums and supporting structures.

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