

MEDICINE

Chemical for Brain Tumor

► A HINT that a promising chemical weapon against leukemia, 6-mercaptopurine, might also check brain tumors appeared in two reports to the New York Academy of Sciences.

The growth of brain tumors in mice was "significantly" arrested by this chemical, Drs. Alfred Gellhorn, Edith Petersen and Margaret Murray of Columbia University's College of Physicians and Surgeons reported.

When injected into the veins of humans, this chemical apparently can pass the "blood-brain barrier," showing that it probably would reach the brain tumor if given this way. A study showing this was reported by Drs. Leonard Hamilton and Gertrude B. Elion of the Sloan-Kettering Institute, New York, and Wellcome Research Laboratories, Tuckahoe, N. Y.

This study was made with 6-mercaptopurine containing radioactive sulfur 35. This labeled chemical was given to one child and one grown-up with leukemia. Object of the study was to learn where the

chemical goes and what happens to it, chemically, in the human body.

It reached the cerebrospinal fluid within five minutes, reached a peak level there in half an hour, and was still present 24 hours later. Since the cerebrospinal fluid is in the brain ventricles and spinal cord, this finding suggests that the 6-mercaptopurine also would be carried to the brain from the blood.

The compound is one of a series made because the chemicals can interfere with vital chemical processes in cells. Because they resemble normal building blocks of the nucleic acid in the cell nucleus, they get used by mistake and disrupt the cell's building of nucleic acid. Scientists have been making and studying such compounds to find one or several which would specifically disrupt nucleic acid manufacture in cancer cells. The one discussed today, 6-mercaptopurine, seems able to do this in some of the so-called blood cancers, the leukemias.

Science News Letter, May 15, 1954

PSYCHIATRY

Helping Schizophrenics

► HOPE FOR a better outlook for patients with the severe mental disease, schizophrenia, sometimes called split personality, appeared in reports to the American Psychiatric Association meeting in St. Louis.

Actually, these patients are more like persons living in a dream world of their own. They often sit in stony silence, completely withdrawn and as if oblivious to what goes on around them. Efforts to help them by psychiatric treatment are often blocked because the patients make no response to the doctor.

Interest in collaborating with the doctor, however, can be aroused in most schizophrenic patients, regardless of how severely sick they are, Dr. Frieda Fromm-Reichmann of Chestnut Lodge Sanitarium, Rockville, Md., declared at the meeting.

She bases her treatment on the thought that the schizophrenic symptoms serve both to express severe anxieties and to defend against them. The anxieties are the outcome of tensions, developing unknown to the person at the time, between dependence on and hatred of significant persons in infancy and early childhood and, subsequently, throughout the years of life before the sickness.

Hostility results from repeated experiences of emotional warp and hurt. Under the pressure of the ever-increasing amount and intensity of these experiences, the patient finally fails in his efforts to keep them out of his mind. Then severe anxiety develops, eventually bringing on the symptoms of the mental sickness.

Dr. Fritz A. Freyhan of Delaware State Hospital, Farnhurst, Del., reported figures showing how much better patients coming to the mental hospital since 1940 have fared than those coming to the hospital between 1920 and 1940. While his figures justify an optimistic outlook, they also show the need for greater effort to help mental patients.

Science News Letter, May 15, 1954

BACTERIOLOGY

Patients Survive Drug-Resistant Germs

► THE PATIENT with a staphylococcus infection will probably survive even if the germs attacking him turn resistant to penicillin or other antibiotics.

This reassuring fact appears from studies reported to the meeting of the Society of American Bacteriologists in Pittsburgh by Drs. Elizabeth Tamblin and Dean L. Moyer of the University of Southern California and the Children's Hospital Society, Los Angeles.

Antibiotic resistant staphylococci germs have increased markedly in recent years. The situation has been a worry to doctors all over the country. At the Children's Hospital in Los Angeles during the past two years, 82% of 104 strains of staphylococci germs were resistant to penicillin. A similar increase in resistance to other antibiotics took place during the same two years.

However, of 43 patients sick with anti-

biotic-resistant germs, 72% survived. Of the 28% that died, a majority succumbed to a debilitating disease that had been present before the germ infection. Only two of the deaths were due to overwhelming staphylococci infections.

In other words, only two of the 43 died because the staphylococci germs invading their bodies had turned resistant to penicillin or other antibiotics.

"It is obvious," the scientists declare, "that the prognosis (outcome) for the patient depends on numerous biological factors and not primarily upon resistance or susceptibility of the organism to antibiotics."

Science News Letter, May 15, 1954

SCIENCE NEWS LETTER

VOL. 65 MAY 15, 1954 NO. 20

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N. St., N. W., Washington 6, D. C., North 7-2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Copyright, 1954, by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service. Science Service also publishes CHEMISTRY (monthly) and THINGS of Science (monthly).

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C., under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to Periodical Literature, Abridged Guide, and the Engineering Index.



Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 1 E. 54th St., New York 22, Eldorado 5-5666, and 435 N. Michigan Ave., Chicago 11, Superior 7-6048.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Representatives of the American Association for the Advancement of Science: Karl Lark-Horovitz, Purdue University; Kirtley F. Mather, Harvard University; Paul B. Sears, Yale University. Representatives of the National Academy of Sciences: Homer W. Smith, New York University; Edward U. Condon, Corning Glass Works; Harlow Shapley, Harvard College Observatory. Representatives of the National Research Council: Duane Roller, American Association for the Advancement of Science; Ross G. Harrison, Yale University; Leonard Carmichael, Smithsonian Institution. Representatives of the Journalistic Profession: Neil H. Swanson, Baltimore, Md.; O. W. Riegel, Washington and Lee University; Michael A. Gorman, Flint Journal. Representatives of the Scripps Estate: Charles E. Scripps, Cincinnati, Ohio; Edward J. Meeman, Memphis Press-Scimitar; John T. O'Rourke, Washington Daily News.

Officers—Director: Leonard Carmichael; Vice President and Chairman of Executive Committee: Charles E. Scripps; Treasurer: O. W. Riegel; Secretary: Watson Davis.

Staff—Director: Watson Davis. Writers: Jane Stafford, Marjorie Van de Water, Ann Ewing, Allen Lang. Science Clubs of America: Joseph H. Kraus, Margaret E. Patterson. Photography: Fremont Davis. Sales and Advertising: Hallie Jenkins. Production: Priscilla Howe. Interlingua Division in New York: Alexander Gode, Hugh E. Blair, 80 E. 11th St., GRamercy 3-5410.