

PUBLIC HEALTH

Future Contraceptive Pills

► BIRTH CONTROL specialists are looking far ahead of present-day oral contraceptive pills to successful immunization against pregnancy.

Dr. Alan F. Guttmacher, director of obstetrics and gynecology, Mt. Sinai Hospital, New York, told SCIENCE SERVICE that the aim of researchers in India as well as in this country is to create an immune reaction against one of the proteins in semen, the fluid carrying the male sperm (germ cell).

"This is a long way off," Dr. Guttmacher said, "but with the many protein substances in both semen and spermatozoa, immunity can be created in time."

The famous obstetrician said that although the contraceptive pills are recognized as a breakthrough, modified pills effective for shorter periods and in smaller dosage will be perfected, perhaps within the next five years.

Dr. Guttmacher recently made a six-week trip to India, Pakistan, Ceylon and other nations to get first-hand knowledge of the population problem in underdeveloped countries. He lectured on birth control to physicians and took part in seminars on the subject.

The present use of contraceptive pills is confined to the United States and England, although a number of countries have been included in experimental tests, which have proved the pills safe and 100% effective.

Enovid was the first contraceptive pill to be introduced in this country. It is the brand name of norethynodrel, a synthetic sex hormone. Another pill called Ortho-Novum is being put on the market, and others will soon follow.

At present, the pills retail for \$3.50 for a month's supply at drugstores under doctors' prescriptions. The dosage is one pill a day for 20 days of each menstrual cycle. When the dosage is stopped, women have been shown to become even more fertile.

The population explosion is universally recognized as a serious danger, but scientific birth control is a matter of controversy. The Catholic Church approves only the "rhythm method," which means abstinence from sex relations during a woman's ovulation period. A Catholic psychiatrist recently challenged this method also, saying it frustrated women.

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BIOCHEMISTRY

Find New Clotting Agent

► DISCOVERY of a clotting agent in the blood that promises to revolutionize the whole research outlook on thrombosis and hemorrhagic diseases was announced in Washington, D.C.

Chemical details of the isolation of a new enzyme, called autoprothrombin C, were reported to the American Chemical Society's division of biological chemistry. An enzyme is a body chemical that controls the speed of life processes.

The announcement was made by Dr. Walter H. Seegers of Wayne State University College of Medicine, Detroit, who credited two Polish scientists with observations leading to the discovery and isolation of the new clotting agent in Detroit.

Autoprothrombin C is so closely associated with thrombin, the enzyme long known to be responsible for clotting, that it had previously gone unnoticed. Dr. Seegers, world-renowned biochemist, said.

"Last year," Dr. Seegers said, "it was first noticed by Dr. Hugon Kowarzyk and Dr. Ewa Marciniak at the M.D. Medical Academy in Wroclaw, Poland, when some thrombin preparations had different properties from others."

Dr. Marciniak obtained a Rockefeller Foundation Research fellowship to come to Detroit in May, 1961, and investigate with Dr. Seegers the mysterious behavior of these thrombin preparations. She collaborated in the report of autoprothrombin C.

Both thrombin and autoprothrombin C

come from prothrombin, an inactive material present in normal blood and isolated by a group of Wayne State laboratory researchers directed by Dr. Seegers in 1953. Dr. Seegers led another group at the same laboratory in the isolation of thrombin in 1958.

The two enzymes were extracted by special techniques from a sample of purified prothrombin isolated from blood. It took about three gallons of blood and one week of work to get one 300th part of an ounce of prothrombin.

Both clotting and failure to clot may result in serious blood disorder. Coronary thrombosis, which causes paralysis or heart trouble that may kill or incapacitate the patient, results from the clotting of blood inside the body. But failure of the blood to clot can cause hemorrhagic diseases such as hemophilia, in which bleeding is prolonged.

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MEDICINE

Measles Immunity High With Killed Vaccine

► AN IMPROVED killed measles virus vaccine has given a high level of immunity to more than 5,000 children tested in various parts of the United States.

Physicians read in the Journal of the American Medical Association, 179:848, 1962, that this vaccine is 90% to 100%

effective. An editorial (p. 892) praises the report by the following physicians: Drs. C. H. Carter, Orlando, Fla.; D. Cornfeld, Philadelphia, Pa.; C. H. Kempe and Carlo Moscovici, Denver, Colo.; L. W. Rauh, Cincinnati, Ohio; D. G. Iezzoni and A. J. Vignec, New York; and T. J. Conway and Joel Warren, Terre Haute, Ind.

Also reported in this issue is a smaller group of children who got weakened live measles virus vaccine at Junior Village, a District of Columbia Welfare Institution for about 400 homeless but otherwise normal children. This article refers to previous studies reported on thousands of children who received gamma globulin along with weakened live measles virus vaccine. In the Junior Village test, one group of children received gamma globulin alone, while another received gamma globulin in addition to the vaccine.

All of the unvaccinated children got measles when exposed, whereas only one of the vaccinated group came down with the disease. Reporting this small study were Drs. Albert Z. Kapikian, Joseph A. Bell and Leon Rosen, all of the National Institute of Allergy and Infectious Diseases, Bethesda, Md., with Dr. Reginald G. James of the D. C. Department of Public Welfare, Washington (p. 841).

Such questions as what kind of vaccine, the number of injections required for lifetime immunity and the possibility of combining measles vaccine with other inoculations must be answered by continued tests before an approved measles vaccine can be authorized by the U.S. Public Health Service.

The antibiotic tetracycline also received editorial praise in treatment of chronic bronchitis, based on a report from six doctors of the Johns Hopkins University and Hospital, Baltimore.

Discontinuance of the drug "is followed by a relapse," the editorial (p. 893) commented, adding that tetracycline, in spite of its high cost, should be used with every respiratory infection, as well as throughout the winter, for certain patients.

Drs. Philip S. Norman, Edward W. Hook, Robert G. Petersdorf, Leighton E. Cluff, Malcolm P. Godfrey and Allan H. Levy reported the study (p. 833).

Preventable rheumatic fever was the subject of another article in this issue of JAMA (p. 863). Dr. Juanita G. Zagala, now living in Manila, P. I., and Dr. Alvan R. Feinstein of Irvington-on-Hudson, N. Y., reported a study at Irvington House involving 183 children and adolescents with a first attack of the disease.

Only 84 of these patients had had a streptococcal sore throat (pharyngitis) preceding the rheumatic fever, but 79% of these patients had been untreated, and the remainder had not received sufficient treatment to eradicate the Group A streptococci responsible for the ensuing disease.

The investigators urged more effective treatment of streptococcal pharyngitis, but pointed out that other measures must be taken to prevent rheumatic fever in the more than 50% who did not have inflamed throats as a warning symptom.

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