

MEDICINE

Cancer Vaccine in Near Future Foreseen

► THE DREAM of developing a cancer vaccine will come true, perhaps in the near future, an eminent British investigator predicted.

The whole field of cancer research is "blooming" with a fertility not contemplated even two years ago, Dr. Alexander Haddow of the University of London and the Chester Beatty Research Institute said in Washington, D. C.

Perhaps within ten years, he told a meeting of the American Society of Hematology, research in seemingly separate fields will come together and point to the fundamental principle in the formation of body cancers. Then immunization studies can proceed full speed.

Right now, Dr. Haddow said, it looks as if that fundamental principle may be a disturbance in nucleic acid, an organic compound found chiefly in cell centers.

Dr. Haddow said the present ways of studying cancer—through structure, function, biochemistry, antigenesis (forming antibodies) and cytogenesis (producing cells)—are related to this principle.

There is "a general picture of loss," he explained, but investigators do not always know just what is lost and just what, correspondingly, intensifies.

In reviewing recent developments, Dr. Haddow cited work on viruses. He said "the mathematical architecture of viruses has been worked out" to show an inside of nucleic acid and an outside of protein blocks.

A breakthrough in virus studies, just announced, in which the first cancer virus has been crystallized, can be understood in terms of the nucleic acid principle, Dr. Haddow believes. The viruses do their damage by getting into the nucleic acid.

He also described research on metallic compounds—such as imferon, aluminum, bismuth and cobalt—that induce cancers, on chemical means of treating cancers such as nitrogen mustard, on the relevance of molecular structures, and on the role of the thymus in developing leukemia.

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Beef Liver Derivative Reduces Cholesterol

► A STEP TOWARD preventing hardening of the arteries was seen in the report of a substance derived from beef liver that appears to reduce blood cholesterol levels in humans.

The substance, hepatocatalase, is not yet available commercially in the United States. It is called Caperase in Spain and France, the Arteriosclerosis Conference, held in conjunction with the American Heart Association's annual meeting, was told in Los Angeles.

When hepatocatalase is injected into muscle, Drs. Josefina Caravaca and M. Douglas May, Scripps Clinic and Research Foundation, La Jolla, Calif., found, it blocks

the body's manufacture of cholesterol, a fatty alcohol believed to be implicated in the artery-clogging that precedes heart attacks and strokes.

The anti-cholesterol factor in hepatocatalase is only a small fraction of the enzyme, which has been isolated and is being analyzed for its chemical structure, the researchers stated.

Preliminary studies indicate that the active ingredient is a molecule of very small size, suggesting a relatively simple structure.

This could mean that the cholesterol-inhibiting agent can be synthesized for eventual drug use. The small size also eliminates the likelihood of an unwanted antibody reaction.

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Easy Detection May Save Colon Cancer Victims

► AN EASY, painless colon cancer detection method that could save some of the 30,000 victims who die of this malignancy in the United States each year was reported at the American College of Gastroenterology meeting in Washington, D. C.

Dr. Galen B. Cook of the Ellis Fischel State Cancer Hospital, Columbia, Mo., has successfully used a silicone-foam enema on patients before symptoms of colon cancer appear.

The usual method of examination for colon cancer is with a sigmoidoscope. But this examination is not as easy and painless as the new method, which could be used for any patient in any doctor's office.

The silicone method reaches twice the distance of the sigmoidoscope, and includes the area of the colon where the diagnostic value of the barium enema is lowest.

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Hospital-Acquired Staph Cured by New Penicillin

► A NEW SEMISYNTHETIC penicillin called oxacillin, first reported in 1962, cured nearly two-thirds of 124 patients who had acquired severe staphylococcal infections following surgery or other illness at the Boston City Hospital.

The patients ranged in age from eight days to 93 years, and the younger patients had a higher survival rate. The researchers, all of Harvard Medical School when the study was made between 1961 and 1963, said oxacillin can be given orally as well as by injection.

Oxacillin was successful in numerous cases that did not respond to other drugs, the researchers said.

Drs. Jerome O. Klein, Leon D. Sabath, Bruce W. Steinhauer and Maxwell Finland collaborated in the study which was reported in the New England Journal of Medicine 269:1215, 1963. Bristol Laboratories, Syracuse, N. Y., furnished the oxacillin. Squibb and Sons, New York, also produces oxacillin under the trade name Resitopen.

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Periwinkle Drugs Used In Immunity Experiments

► TWO SUBSTANCES isolated from the common periwinkle plant *Vinca rosea* that are successful in helping patients with leukemia are being investigated for possible use in suppressing immunity to skin grafts or organ transplants in animals.

Dr. Alan C. Aisenberg of Massachusetts General Hospital and Harvard University, Boston, reported preliminary work in *Nature*, 200:484, 1963, with cautious predictions on the value either of Velban (Vinblastine) or Oncovin (Vincristine) in transplants. Both are produced by Eli Lilly Laboratories, Indianapolis.

Dr. Aisenberg said that Vincristine was better tolerated in his work with rats than Vinblastine, which is more toxic at the high dose levels necessary to prevent rejection when transplants are done.

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New Drug for Heart Pain and Irregularity

► THE SUFFOCATING pain of angina pectoris and irregularities of heart rhythm are both being helped by a new drug being tested in England.

Patients with atrial fibrillation, a severe form of the heart trouble that took "Deke" Slayton out of the astronaut race, were successfully treated by the new drug, called by its chemical name, pronethalol.

Drs. J. P. P. Stock and N. Dale, both of the Stoke-on-Trent Hospital Group, reported in the *British Medical Journal*, Nov. 16, 1963, that pronethalol, which is a beta-receptor adrenergic blocking agent, had in seven patients immediately stopped irregular rhythms brought about by digitalis intoxication.

When combined with digitalis, the new drug helps prevent the excessive rise in the ventricular rate when the person is exercising.

The researchers said care should be used when giving the drug if heart failure is indicated in a person when treatment is begun.

Three other trials by 12 researchers in London hospitals on the use of pronethalol have been successful in cases of angina pectoris, in which chest pain is caused by a spasm of the coronary artery.

Another use of pronethalol during tumor surgery at St. Thomas' Hospital and University Hospital, London, was reported in the same issue of the *British Medical Association's* official journal.

Pronethalol was given in combination with two drugs now in use in the United States to lessen high blood pressure during surgical treatment of an adrenal-gland tumor, which itself is associated with causing high blood pressure. These two U.S. drugs are phenoxybenzamine, produced under the trade name Dibenzylamine, by Smith Kline & French, and phentolamine (trade name Regitine) produced by Ciba.

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