

MEDICINE

Hormone Checks Cancer

► UNITED STATES scientists have demonstrated that a natural hormone product found in the human body can stop the growth of a certain type of cancer (lymphoma), at least temporarily.

The hormone product, etiocholanolone, is a steroid which breaks down from the male hormone formed in the testes and in the adrenal glands. Four of seven lymphoma patients have benefited from the treatment.

A total of 29 patients with cancer have been treated. Seven had lymphomas including lymphosarcoma, Hodgkin's disease, reticulum cell sarcoma. Sixteen had other types of cancer. Only one of the patients with other types of cancer, a woman with extensive uterine cancer, showed improvement following administration of the hormone product.

The investigators speculated that the responses to etiocholanolone might be due to the fact that the production or metabolism

of the hormone may be deranged in patients who have cancer and that administration of this hormone metabolite may be correcting this deficiency. Since production of the male hormone progressively declines with age, less etiocholanolone is potentially available in the older cancer-prone population.

The hormone product was prepared by chemical synthesis in an injectable form. Only patients with a proven diagnosis were treated in the study.

Dr. Leon Hellman, of the Sloan-Kettering Institute for Cancer Research on leave of absence at Montefiore Hospital, reported the study to the American Association of Physicians meeting in Atlantic City, N. J.

The report, co-authored by seven other scientists, described studies carried on at both Sloan-Kettering and Montefiore Hospital.

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MEDICINE

Hepatitis Diagnosis Seen

► A NEW METHOD of obtaining liver tissue from young infants promises to be a first step toward diagnosis of jaundice from giant cell hepatitis. The latter illness may cause liver scarring resulting in the death of one third of the tiny victims who have jaundice.

The liver biopsies are possible because of a new needle developed by the Italian physician Menghini, Dr. Fredric B. Kopel of Mount Sinai Hospital, New York, told SCIENCE SERVICE in an interview at the spring session of the American Academy of Pediatrics, New York.

Next to congenital blockage of the bile duct, giant cell hepatitis is the most common cause of prolonged obstructive jaundice be-

yond the first two weeks of life.

Dr. Sydney S. Gellis, chairman of the department of pediatrics, Boston University School of Medicine, has done research on giant cell hepatitis on some 100 children in Boston who have had the disease.

Both he and Dr. Kopel estimate that one third of the babies with jaundice get permanent liver scarring (cirrhosis).

Medical researchers are still endeavoring to solve the mystery of hepatitis in babies.

Various causes previously suggested by researchers on causes of giant cell hepatitis include: 1. Transmission of infectious or serum hepatitis from the mother; 2. a congenital structural abnormality of the bile ductules; 3. blood group incompatibility

(RH and ABO); 4. most recently the virus of cytomegalic disease.

Dr. Kopel said the objection to the cytomegalic virus theory is that this virus is estimated to be present in between 10% and 30% of newborn healthy children, so that the relationship to giant cell hepatitis may be "purely fortuitous."

His new work with histochemical and electron microscopic examination has led him to conclude that giant cell hepatitis is a disease in which there is an absence of bile-excreting structure around a peculiar giant cell.

This work was done in cooperation with Dr. Fenton Schaffner and the Department of Pathology at Mount Sinai Hospital.

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PHYSIOLOGY

Hormones Seen Link In Starvation Response

► HORMONES that regulate growth also appear to play an important role in the body's response to starvation.

Drs. Josiah Brown and Norman Mondz of the University of California, Los Angeles, Medical School have demonstrated this possible role by comparing blood levels of fats in response to starvation and to injections of growth hormones.

When a person goes without food for a day or two the body's metabolic processes shift to new pathways to obtain energy. Instead of using carbohydrates or sugars, which are no longer available, the body turns to its stores of fat for its energy needs. This is signaled by a marked rise in levels of fatty acids in the blood.

When human volunteers were injected with small amounts of growth hormones, this same increase in blood fats was noted. This suggested that growth hormone has one of the same effects on body chemistry as starvation. It further indicated that perhaps the hormone has the role of fat mobilization to meet the threat of starvation.

The pituitary gland continues to secrete growth hormone long after growth ceases.

The clinical applications of these findings are now academic. Not enough growth hormone can be obtained from natural sources to meet known needs, such as in the treatment of dwarfism. No satisfactory synthetic product has yet been achieved.

One possible new application would be in treatment of acute kidney failure. When kidneys fail, by-products of normal cell metabolism, normally eliminated by the kidneys, accumulate and poison the body. Administration of growth hormone helps switch the body over to a metabolism whose accumulated by-products are less harmful. Thus the patient might be assisted until his kidneys resumed function.

Could growth hormone with its starvation-like effects be used as a "reducing drug?" Theoretically, yes, Dr. Brown says. But in addition to the fact such a drug cannot yet be practically produced, there might be harmful side effects which would not justify such a use of the drug.

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AIRGEEP II—A new, improved "aerial jeep" is powered by two turbines. Made under contract to the U.S. Army, the vehicle, developed by Piasecki Aircraft Corporation, Philadelphia, is currently undergoing testing.