

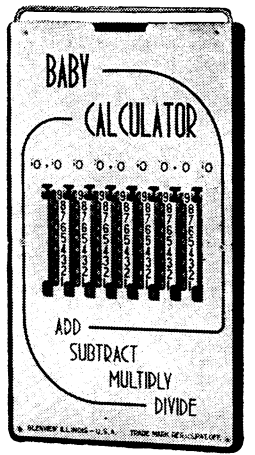
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Questions

AERONAUTICS—How fast did the first full-scale five-stage rocket, fired for test purposes, travel? p. 51.

MEDICINE—What differences were found in types of cancer in residents of northern India and of the Bombay area? p. 54.

ZOOLOGY—What is the name of a chemical that has been found to repel rattlesnakes? p. 56.

Photographs: Cover and p. 51, National Advisory Committee for Aeronautics; p. 53, Barnes Engineering Company; p. 55, Michigan State University; p. 64, Eastman Chemical Products, Inc.

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MEDICINE

Find Cancer Defenses

► THE ARGUMENTS supporting the belief there are natural defenses against cancer within the body were presented in a progress report issued by the Sloan-Kettering Institute for Cancer Research, New York.

The existence in the healthy person of natural defense mechanisms against cancer is evidenced by a series of investigations conducted in cooperation with the Ohio State Penitentiary. These studies have shown well persons can reject implants of human cancer tissue, while patients with far advanced cancer cannot. Second implants of cancer cells are rejected by the well volunteers even more rapidly than the first implants.

This shows there are two types of natural defense: 1. A defense that is innate in the well person; 2. A defense like that against an infectious disease, one that is stimulated by exposure to the disease-causing cells.

The first defense seems to be related to the presence in the blood of an agent known as properdin, the report stated.

The innate volunteers had it in normal amounts and the cancer patients either lacked it completely or had abnormally low amounts of it.

To study the second type of defense, Sloan-Kettering investigators are now injecting cancer cell fractions into the Ohio volunteers to determine which fraction contains the defense-evoking material.

Animal studies by another group of investigators have shown that natural defenses against cancer can be stimulated artificially.

This was accomplished by injecting cancerous mice with a material known as zymosan. The cancers gradually dissolved and disappeared. Experiments have shown that zymosan does not inhibit the cancer directly, but apparently helps the body defend itself against such cancer growth. Other workers have shown that zymosan injections increase the level of properdin in mice. The possibility that this may be

the way in which zymosan inhibits cancer growth is now under study.

Sloan-Kettering scientists have also developed a vaccine that prevents one type of experimental cancer in mice.

Studies are also underway in the following fields: The growth in chickens of human cancers; fractionation of human cancer cells to discover the source of cancer-destroying poisons; tracing of fluorescent antibodies in animals with virus-caused cancers.

Science News Letter, July 26, 1958

OBSTETRICS

Expectant Dads Should Eat Special Diet Too

► THE EXPECTANT father should eat a special diet, too, during his wife's prenatal period.

In fact, they both should share the same prenatal diet, Dr. Genevieve Stearns of the College of Medicine, State University of Iowa, reports in *Children* (July-August), published by the U. S. Department of Health, Education and Welfare.

Usually, when the young pregnant woman is given dietary advice, she comments that she cannot follow the diet because it would involve cooking two separate meals. The husband requires a separate diet because he does not ordinarily eat the foods prescribed for his wife's pregnancy.

A potent argument for the young father-to-be is to remind him that the coming baby is his also, Dr. Stearns advises. It is his wife's duty to eat what she needs to bear a sturdy infant. It is his duty to see that she does.

Taking this responsibility will not injure him in any way, and it may even help the next baby. If an expectant father is asked to become guardian of his wife's diet, he usually assumes the responsibility, although it forces him to taste and to eat many foods he has never tried to eat before.

Science News Letter, July 26, 1958