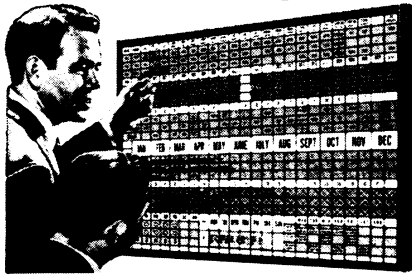


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MEDICINE

Cancer Vaccine Possible

► THE POSSIBILITY of a vaccine against cancer is receiving world consideration. In its summary of the cancer problem, the World Health Organization emphasized "cancer is a disease that can be cured if detected in time."

It is also true that "more knowledge is needed for the final breakthrough to be able to cure the disease."

Is cancer caused by viruses? The WHO inquiry points out that cancer is caused by viruses in animals, but in man, proof of this is yet to be found.

Because mouse leukemias have been found to be caused by viruses and because vaccines have protected mice from contracting leukemia, experts believe that a vaccine may be possible for human cancer. Hopes for early proof of a virus cause of human cancer have led Dr. Jean Bernard of the Institute of Cancer Research, Villejuif, France, to emphasize research on the vaccine possibility.

Like other leukemia researchers all over the world, Dr. Bernard is cautious about predicting a vaccine for fear of unduly raising the hopes of victims and their families.

The essential element, a nucleic acid, that protects mice from getting leukemia, has been isolated from the virus in other experiments.

At present these are only laboratory ex-

periments, but Dr. Bernard believes that not a great deal would be needed to extend the successes from animal to man and from test tube to clinic.

Dr. Ludwik Gross, Polish-born researcher now at the Veterans Administration Hospital in New York, asks, "Why shouldn't human cancer be caused by virus? Give me a single reason why it shouldn't."

In 1946 Dr. Gross started his famous experiments on mice, especially on the AK strain which is extremely susceptible to leukemia. He removed fragments of tissue from these mice out of which he made a "juice" that was inoculated into another strain of mice resistant to leukemia.

Twelve of the 14 mice inoculated got leukemia, which indicated that leukemia is a disease caused by a transmissible virus.

Dr. Gross continued to experiment on other animals, including rats, hens, frogs, rabbits and dogs, and he found that some cancers, particularly malignant blood diseases, seem to be transmissible.

One of the most dramatic developments in the virus-leukemia story, however, came later from England, where Dr. Michael Epstein and his co-workers at the Middlesex Hospital Medical School, London, reported transmission of human cancer to laboratory animals.

• Science News Letter, 86:382 December 12, 1964

MEDICINE

Hope for Cancer Control Seen in Tumor Antigen

► THE POSSIBILITY of controlling cancer some day is seen in experiments that show the presence of antigen or antigens in human malignant tumors. An antigen injected into the body leads to the formation of antibodies, or resistance to virus or bacteria.

The possible application of immunology to the problems of human cancer may be closer as a result of work done at King's College Hospital Medical School, London, and reported in Nature, 204:897, 1964.

The researchers obtained human malignant tumors along with normal tissue from surgical operations or autopsies for their experiment. Using rabbits, antiserum, or blood containing antibodies, was prepared that reacted exclusively with tumors.

Then the investigators analyzed 72 tumors for reaction with the antibody material. They found that there was no reaction with the normal tissues, but a number of the tumors reacted, showing the presence of antigen.

What this could mean in prevention or treatment of cancer remains to be proved, but the researchers are continuing their studies. It is too soon to predict a vaccine against cancer, Drs. D. E. H. Tee, Mildred Wang and J. Watkins who reported the study, said.

• Science News Letter, 86:382 December 12, 1964

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