

MEDICINE

Artificial Hibernation Aids Treatment of Human Cancers

Applied Locally, Refrigeration Treatment Lowers Body Temperature Below Critical Point for Cancer Cells

REFRIGERATION, involving "artificial hibernation," is a helpful aid in the treatment of human cancer, Dr. Lawrence W. Smith, of Temple University School of Medicine, Philadelphia, told the American Association for Cancer Research, meeting in Richmond. But it is by no means a cure.

This low temperature "cold" treatment tried on more than 30 cases of inoperable cancer, Dr. Smith reported, gave these results:

Prompt reduction in pain; reduction in size of the local lesion; general improvement in the patient's condition; tendency toward healing of ulcerative and fistulous lesions; and a retardation in recurrences and in the rate of growth of such recurrent lesions.

The refrigeration treatment is applied locally directly to the cancer, or the temperature throughout the body generally is reduced by "artificial hibernation."

The treatment is based on evidence that temperature is an important factor in the activation of embryonic cell

growth and that there are very definitely "critical" levels of temperature which have a much narrower range for young cells like cancer cells than for adult differentiated cells.

Dr. Smith suggests that refrigeration treatment should be made a definite part of cancer treatment, not as a cure in itself but as an adjunct to X-ray treatment and surgery.

Chemistry Prevents Cancer

RABBITS are better chemists than rats or white mice and consequently can defend themselves against the cancer-causing chemical from coal tar, dibenzanthracene.

Whether human bodies have the same type of chemical defense against this cancer-causing chemical is not yet known, Dr. C. P. Rhoads, of the Hospital of the Rockefeller Institute, New York, who reported the animal studies, declared.

Rabbits are not susceptible to cancer caused by the chemical, Dr. Rhoads explained, whereas rats are somewhat susceptible and mice exceedingly so. All three species, he has found, can convert the chemical into another compound which is not cancer-causing. This may be the mechanism by which the animal protects itself against the chemical production of cancer. But rabbits, Dr. Rhoads found, do a very much better job of chemical conversion of the can-

cer-causing chemical into the harmless one, which accounts for their not being susceptible to cancer from this cause.

The cancer-causing chemical is related to bile salts and sex hormones normally found in human as well as other animal bodies. There has been a theory based on this chemical relationship, that a failure in body chemistry may be a cause of cancer in some cases. Dr. Rhoads' studies seem to throw new light on this aspect of the cancer problem, but it will probably be some time before human applications can be made.

Cure Shown by Tissue

AN IMPORTANT advance in the fight to cure cancer appeared in the report of Dr. Shields Warren, of the Pondville, Mass., State Hospital for Cancer.

Dr. Warren told how physicians can tell whether a course of X-ray or radium treatment for cancer really has cured the condition or whether the patient needs further treatments or perhaps a surgical operation.

A bit of tissue is removed after the last radiation treatment. By looking at a paper-thin slice of this under the microscope the pathologist can tell what effect the radiation had on the cancer cells. If there has been little or no effect, Dr. Warren advises, the treatment should be changed, preferably to surgical procedures.

In a group of 70 cases of cancer of the uterus, all but one of the cured cases, Dr. Warren reported, showed a definite radiation reaction of the tumor cells. On the other hand, 90 per cent. of the group without evidence of radiation reaction died, whereas 64 per cent. of those showing moderate reaction and 58 per cent of those showing a marked reaction died.

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TURNING EVIL TO GOOD

A deep gully was eating into a Nebraska farm, threatening the highway. Under U. S. Soil Conservation Service direction, an earth dam was thrown across it—and now the farmer has a new asset in the form of a well-filled pond, that will furnish water for his stock, and a place for the boys and girls to skate in winter.

