Surgery "Cures" Some Cancer

Radical surgery, helped by blood and blood vessel banks, by miracle drugs, new methods of feeding and other techniques, is saving more and more victims of cancer.

See Front Cover

By WADSWORTH LIKELY

➤ MORE AND more people are being "cured" of cancer every day.

Even though our scientists do not yet know how cancerous cells start their wild careers of dividing and choking, or know how to stop that process of uncontrolled growth, our physicians and surgeons are making more cancer victims well than ever before.

They use two things which have been known about for a long time. But they are using them more effectively than ever before. These are: 1. The surgeon's knife, cutting wide and deep. 2. Earlier and earlier detection of the beginnings of cancer.

Not for Leukemia

Unfortunately, this approach is not effective on some kinds of cancer which cannot be cut out. Leukemia, cancer of the blood, is not amenable to the surgeon's scalpel and the victims—mostly children—still face sure death. Neither is the knife effective when the cancer has spread to many parts of the body.

One of the most amazing kinds of "cures" actually combines in one step the two necessary things—the knife and early detection. Physicians in many hospitals now take a very small sample of the tissues at the end of the womb called the cervix, to discover whether or not cancer is present. This slicing off is completely painless. In some few instances, under the microscope, cancer has been discovered in its very early stages.

Yet sometimes when they go back to the patient for another sample—no more cancer. It is suspected that the very act of taking a sample for the purpose of early detection has also rid the patient of all her cancer—"cured" the patient.

Longer Surgical Operations

In direct contrast are the complicated operations involving many hours under the knife, the removal of whole lungs, stomachs, parts of blood vessels, the cooperation of teams of physicians, surgeons, pathologists, chemists, even psychologists. It is now possible to keep a patient alive on the operating table for periods of 14 hours and longer. It is now possible to remove almost any combination of human organs.

Blood and blood vessel banks, new techniques of feeding patients before and after operations, antibiotics against infection, new anesthetics and methods of administering them, dozens of laboratory tests and the teamwork of many all go into a successful major cancer operation today.

In one recent seven-hour operation on a patient who had a cancer dangerously near the aorta—the major blood vessel leading from the heart down into the internal organs and legs—the aorta was removed from just below the kidney arteries to below where the branch-off is made into the legs. This could not have been done without the blood vessel bank. Several vessels were brought to the operating room and the patient was "fitted" as though for a new pair of shoes. A blood bank aorta is shown on the cover of this week's SCIENCE NEWS LETTER.

Antibiotics Aid Operations

The operation would not have been considered a good risk if antibiotics, the new wonder drugs against infection, were not available. No matter how sterile an operating room is, no matter how many times the surgeon washes his hands in antiseptic solution, infecting bacteria can creep in. The antibiotics in use now kill this invading force within the patient.

Seventy-seven different kinds of laboratory tests and analyses during the day before, the day of, and the day after the operation were performed for the patient whose aorta was removed. Drs. Milton R. Porter and Ralph Deterling, of New York's Delafield Hospital, who performed the operation, emphasize that without the teamwork of many members of the staff, such an operation would not be possible.

Cancer around the face, in the mouth and involving the throat formerly presented the surgeon with severe problems. Operations were disfiguring, sometimes much of the tongue had to be cut out, sometimes the patient had to be left with nothing but an opening below his neck for breathing and eating.

Now Drs. Grant E. Ward and Milton Edgerton of Johns Hopkins Hospital, Baltimore, have developed an operation in which one surgeon cuts away much more than was previously thought advisable, while the other repairs the damage.

Dr. Ward is the one who does the cutting out. Dr. Edgerton is responsible for the repair job. But the essential feature is that the reconstruction is considered to be an essential part of the cutting out.

Age Does Not Affect Success

Age has little to do with whether the patient can stand the operation, the two doctors say. They have performed this type of operation on one man 97 years old, yet after about six months he is still alive.

A Lutheran pastor, 66, underwent an operation two years ago in which part of the jaw and part of the tongue were both removed. Now thanks to the repair work, he is preaching every Sunday, in both German and English.

In Chicago, Dr. Charles B. Huggins removes the vital adrenal glands from patients whom he believes have hormone-dependent cancers. Most of these cases are cancer of the prostate in men, and cancer of the breast in women.

He believes that about 50% of these cases are hormone-dependent and that if the adrenal glands, which produce some of the body's hormones, are removed, the tumors will die. So far, Dr. Huggins, of the department of surgery at the University of Chicago, has operated on 42 men and women with advanced cancer in the past 15 months. Of these only two have died.

They all take one or two capsules containing cortisone each day. This replaces what their removed adrenal glands secreted.

Fifty percent of these had what Dr. Huggins called marked improvement. They are back at work. One is even back at his job as a boilermaker.

Another help in advanced abdominal cases is what is called "second look" operations. Between six and nine months after the first operation, the surgeon operates again for another look. Many times fresh growths are found and are cut out. If the patient is "clean", no further op-

erations are performed. But some patients have been back for the "sixth look."

Almost all of these operations could not have been performed ten or 15 years ago, simply because there was no way to keep the patient alive through so long a time on the operating table and with such drastic cutting and its attendant shock to the system.

Dr. John Scudder, of Francis Delafield Hospital in New York, has told of a new method of building up the nutrition of patients before and after operations. A formula evolved by Dr. John Elliott, Dade County Blood Bank, Miami, Fla., based on proteins and amino acids can be fed to a patient through a tube from his nose down to his intestinal tract. The formula is completely sterile and, when fortified with alcohol and fed, drop by drop, 24 hours a day, it alone has kept patients alive for periods of up to 461 days at Jackson Memorial Hospital, Miami.

In addition, more and more of what is necessary for rebuilding strength can be fed to a patient, through his veins. Vitamins and glucose go into the mixtures which are fed him in this manner.

Massive and frequent blood transfusions are given during operations. However, surgeons are running into complications. There are many combinations of blood known today. One transfusion sensitizes a person against some of the other types of blood for life. If he needs a serious operation and has had previous transfusions, the problem of finding just the right kind of blood is greatly complicated. Therefore it is being urged that patients not be given blood transfusions for minor operations, like an appendectomy, nor for women during the childbearing period.

To get around this, some surgeons collect the blood lost during an operation and transfuse it right back into the patient. Your own blood is safest. Some surgeons draw blood at the beginning of an operation, or save a patient's blood and administer it at later critical phases of the operation.

With all of these techniques, more and more cancer victims, previously doomed to an early death, are being saved, or their lives are being lengthened.

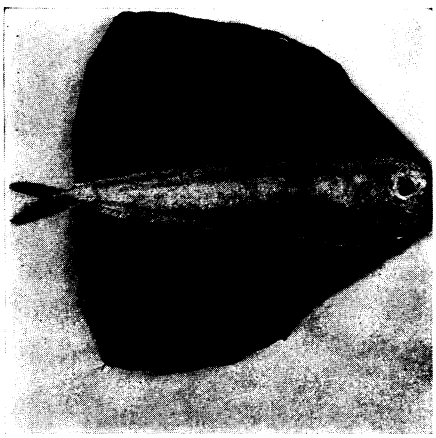
Science News Letter, May 17, 1952

METEOROLOGY

Weather from Antarctic

➤ THE HIGH plateau which is the Antarctic and the oceans surrounding it have a strong influence on our daily weather.

To determine just what that influence is and to gain more knowledge which will make long range weather forecasting more accurate, Massachusetts Institute of Technology scientists have completed a two-year series of daily weather maps of the entire southern hemisphere, it was revealed at a meeting of the American Meteorological Society in Washington.



RARE FANFISH—The first fanfish ever known to have been caught off the United States Pacific coast and one of the few caught anywhere, this rare specimen is now on display at the Scripps Institution of Oceanography.

Weathermen have suspected that the southern hemisphere is more important than our half of the world in influencing the world's weather. The new southern weather maps tend to confirm this, Morton J. Rubin of M.I.T. reported.

The general west to east current of wind in the southern half of the world, while like that of the north, is much stronger. In fact its minimum strength is about equal to the northern current's maximum strength.

In addition it is much more stable, not undulating northward and southward as much as the northern west-to-east current does. This is because the cold air from the Antarctic tends to seep northward from all around the continent over the relatively warmer oceans rather than to come out on bursts or outbreaks, as happens in the Arctic.

Because of these stronger, more stable zonal westerlies in the south, masses of air are thrown across the equator during the southern winter and our summer. Our winter westerlies are not strong enough to throw much back during the south's summer. Thus the southern hemisphere has a primary influence on the world's weather, Mr. Rubin said.

The group which prepared the two-year series of maps is headed by Dr. H. C. Willett, professor of meteorology at M.I.T.

Science News Letter, May 17, 1952

● RADIO

Saturday, May 24, 1952, 3:15-3:30 p.m. EDT

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. W. D. Snively, Jr., medical director, Mead, Johnson & Co., Evansville, Ind., discusses "Food for Young and Old."

TECHNOLOGY

Fluorescent Tubes Light Airplane Loading Platform

➤ A BATTERY of eight giant fluorescent tubes are being used to light the loading section of the Logan International Airport's terminal building in Boston.

The tubes, eight feet long, are backed with highly polished, scientifically designed reflectors. Compared to the previous installation, the new units have less glare, provide a substantial increase in the illumination, yet cut power costs.

Science News Letter, May 17, 1952