

SURGERY

Halt Cancer Development

A resurfacing operation and injection of radioactive chromic phosphate are aiding fight on cancer. Sky blue dye traces the cancer's growth.

► A RESURFACING operation to check the development of cancer was reported by Drs. John W. Draper and Richard B. Stark of New York Hospital and Cornell University Medical Center, New York, at the meeting of the American College of Surgeons in Atlantic City.

The operation would be for patients who, over the years, had had multiple benign tumors of the bladder. With each recurrence, the doctors pointed out, these tumors become more malignant, until finally they become true malignant cancers.

In the hope of interrupting this usual progression from harmless to malignant tumors, the New York doctors decided to try resurfacing the lining of the bladder with skin. Tried so far in dogs, this resurfacing operation seems to work.

Although there is some loss of elasticity and consequent decreased capacity, no stones formed in the resurfaced bladders and there was no other sign of damage from the operation.

Evidence that the resurfacing operation would check the cancerous progression came when the doctors gave the four dogs with resurfaced bladders a drug called betanaphthelamine. This chemical is known to produce cancer in the bladder. The dogs got the chemical for 24 months, but so far there has been no sign of cancer developing.

For "poor, miserable people at the end of the line" because of cancer of the bladder or cancer of the prostate gland, there is atomic medicine that can make them feel better, although it does not cure the cancers. This atomic medicine consists of injections, by a newly developed electric injector, of insoluble radioactive chromic phosphate directly into the cancer.

This new palliative treatment was reported by Dr. Vincent Moore of the University of California School of Medicine in Los Angeles.

Atomic medicine is helping fight the spread of cancer from its original location in the body to other regions. Using injections of radiogold, Dr. Colin G. Thomas Jr. of the University of North Carolina School of Medicine, Chapel Hill, N. C., followed its course through the lymphatic vessels of the body. These vessels drain lymph and are best known to the layman when they form lymph nodes, or lymph glands.

Tracer amounts of radiogold, injected near accessible cancers of the head, neck and breast, spread rapidly throughout the regional lymph nodes.

If a lymph node had been completely replaced by cancerous tissue, radiogold

could not be deposited in it. But if even a small amount of lymphoid tissue was still there in the gland, radiogold could get in and be swallowed up in the lymphoid tissue.

A sky blue dye that is rapidly taken up by the lymphatic system where no cancer has invaded is being used by other doctors to determine how far cancer has spread and therefore how much tissue must be cut out at operation.

Use of this dye, called direct sky blue, was reported by Drs. Lawrence H. Strug, William Leon and Isidore Cohn Jr. of Louisiana State University School of Medicine, New Orleans.

They inject the dye into the tissues at the time of operation. Within a few minutes they can see where the spread of the dye is checked by the spreading cancer. Much more radical operations than formerly believed necessary should be undertaken, the New Orleans doctors find as a result of use of this blue dye.

In cases of stomach cancer, for example, they now find they may have to remove not only all the stomach but part of the pancreas and all of the spleen, in order to remove all the cancer.

How much tissue needs removing to get all the cancer is also told by use of another chemical, a dark violet powder known as hematoporphyrin. This chemical is injected into the patient's veins about 24 hours before operation.

Then, at the time of the operation, an ultraviolet spot light is beamed on the patient. The cancer tissue glows a bright red, outlining its boundaries and its spread through lymph vessels. Success of this method depends on using very large doses of the violet powder, Drs. D. S. Rasmussen-Taxdal, Grant E. Ward and Frank H. J. Figue of Baltimore reported.

Use chemical cross fire to attack cancer is the suggestion from studies reported by Dr. Daniel M. Shapiro of Columbia University. Four drugs used this way showed promising results in cancers in mice.

The drugs he used were two vitamin antagonists, a purine antagonist and the male hormone. He selected these because they would block naturally weak nourishment pathways of cancer cells. The lower amounts of enzymes in these weak pathways should be easier to knock out fast, with resultant greater harm to the cancer, Dr. Shapiro reasoned.

Science News Letter, November 27, 1954



LIGHT NOISE—Instead of checking the light output of the 2000-watt light bulb, General Electric engineer Richard Blount measures its noise level. To help television and movie producers improve sound quality, a line of noise-free high-wattage incandescent lamps for studio use has been developed.