

MEDICINE

New Weapons Against Cancer

U.S. and Russian scientists use radioactive phosphorus to diagnose stomach cancer but in different ways, Faye Marley reports from the International Cancer Congress at Moscow.

► **WHETHER** a patient has stomach cancer or some benign gastric condition can now be determined by new effective use of radioactive phosphorus, researchers from Minneapolis, U.S.A., and Moscow, USSR, reported in Moscow.

Stomach cancer is one of the most difficult kinds to diagnose because it rarely shows up in X-ray pictures. Although it has been known for 20 years that radioactive phosphorus P-32 is taken up by malignant tumors, its use has been ineffective because of the relative inaccessibility of stomach cancer to the Geiger counter or Geiger-Mueller tube.

Dr. Norman B. Ackerman of the University of Minnesota Medical School told the Eighth International Cancer Congress that a one-hour test with a thin-walled rubber balloon coated with a latex-base photosensitive emulsion is successful when the balloon is passed inside the patient's stomach after he has received a tracer dose of P-32. The balloon is inflated with air and left in place for the duration of the test. This is called radioautography. It is now being adapted for use in diagnosis of other cancers, including breast, cervix and bladder. Four hundred patients were tested in Minnesota.

Dr. E. I. Voznyuk of Moscow reported work with P-32 involving stomach washing of 52 patients. He used a beta-counter to examine water radioactivity received with stomach washing. Organic stomach diseases without malignancy showed no local rise of radioactivity and insignificant quantity of P-32 in lavage water. The presence of more than one percent of the P-32 injected dose may indicate malignancy. The test is not effective when tumors have spread, however.

Electrons Fight Breast Cancer

A super-voltage electron treatment for breast cancer that spares the healthy tissue and can be used both before and after operation was announced to the International Cancer Congress by two West German doctors.

Another breast cancer treatment also reported was the use of a radioactive "hot" wire to destroy spreading wild cells, performed successfully on 70 patients at the Sloan-Kettering Cancer Center, New York.

The new German irradiation method uses fast electrons (electricity particles) generated by a super-voltage betatron. Drs. Friedhelm Oberheuser and Gerhard Schubert of the University Hospital of Hamburg found that it is effective before operations and on inoperable cases. Non-cancerous portions are little damaged.

To reach the wild cells of the breast

cancer that remain in 30% of the patients after operation, radioactive iridium-192 and cobalt-60 in the form of wire is inserted into a breast artery to bombard up to a week the dangerous malignant bodies. Drs. Richard D. Brasfield and Ulrich K. Henschke of New York reported this is much more effective than X-radiation from the outside and does not damage the surrounding tissues so severely.

Postoperative Radiotherapy

Norwegian women have breast cancer more frequently than any other type, with cancer of the stomach and uterine cancer second and third, Dr. Selmer Rennes of the Norwegian Radium Hospital, Oslo, reported. Postoperative radiotherapy has been used in follow-up treatment of all patients that survived initial surgery. Some have lived as long as 30 years as a result of this thorough procedure.

Uterus Preservation Advised

Preservation of the female uterus among young women who wish to have children was advised by several speakers, including Dr. Gunther Uhlmann of Hamburg University. A few years ago a total hysterectomy (removal of uterus and ovaries) was regularly performed on women with cervical cancer. Now the neck of the uterus alone is treated among women under 40.

Dr. E. Bahrmann of East Berlin reported on more than 2,000 biopsies to determine whether the cervix was actually cancerous or only "pre-cancerous." After a five-year observation of 165 cases, he said only one patient turned out to have cancer. He believes the least surgical interference should be used in cases of this kind.

Throat and Mouth Cancers

Heavy tobacco habit in any form accounted for almost all male upper throat and mouth cancers in South India, Drs. V. Shanta and S. Krishnamurthi of Madras reported. Dr. J. C. Paymaster of Bombay said a detailed study of more than 100,000 proved cancer cases collected from 14 hospitals in different parts of the country showed 39% of the cancers were oral and pharyngeal.

But there is a high percentage of stomach cancer in Bangalore. Skin cancer is rare except in Kerala.

Short-focused X-raying was reported as the "method of choice" in treating more than 1,000 cases of skin and lower lip cancer in the USSR State of Georgia, where both forms of cancer are common among

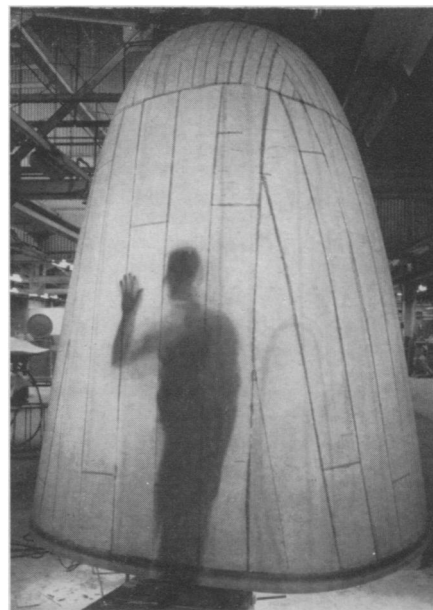
villagers, most often among women. Dr. K. K. Madich and his co-workers in Tbilisi pointed out that good cosmetic and functional effect had been observed over a period of 10-year follow-up of patients treated by X-ray.

Geographical Pathology

At a symposium on the geographical pathology of cancer, representatives of the People's Republic of China told of a mass survey of carcinoma of the esophagus predominant in North China. Vietnamese Democratic Republic scientists said the most frequent cancers in North Viet-nam were of the stomach, penis (16% of male cancer types), liver and oral cavities.

Geological Causes

Drs. J. Barany and Lajos Galacz of Veszprem, Hungary, suggested that radioactive stones in rock formations from the Permian age they had studied in a hilly district near a lake implied a relationship between geological formation and cancer.



DISJOINTED NOSE—An inspector's shadow diffuses in a ghost-like shape as light shines inside an airplane nose section. The radome, constructed of strips of fiber glass honeycomb covered with a resin-impregnated glass fiber skin, is being constructed by Goodyear Aircraft Corporation to house antenna equipment for a modified version of the KC-135 jet tanker. The structure which is nine feet long and seven feet wide at the base is designed to withstand speeds approaching that of sound.