MEDICINE

# Chemicals Fight Cancer

**The growing success of drugs, first tried on mice, for treating persons suffering from leukemia emphasizes the important part mice play in cancer research, Faye Marley reports.**

➤ LEUKEMIA, cancer of the blood-forming organs, is responding to the same drugs whether given to mouse or man, Dr. J. H. Burchenal of the Memorial Sloan-Kettering Cancer Center, New York, told the International Cancer Congress in Moscow.

This explains why so much research with mice is important. Two sessions on new methods of cancer treatment emphasized the growing success of drugs with humans suffering from leukemia. But the drugs had first been used on mice that had leukemia induced by viruses.

Mitomycin C (MC), a drug widely used in Japan, was reported most effective in combination with 6-mercaptopurine, steroid hormones and other drugs. Dr. Susumi Hibino of Nagoya University School of Medicine said 80% higher frequency of leukemia remission had been found with such combinations.

So far no one has reported a cure for leukemia but remissions appear to grow longer as new drugs are found that do not affect the bone marrow too severely.

Transplantation of living bone marrow cells in leukemic mice was reported by six Moscow scientists, who said the transplant temporarily restored the manufacture of healthy white blood cells and prolonged the animals' life span.

Other experiments on rabbits as well as humans were reported by Drs. M. S. Dultsin and M. O. Rauschenbakh of Moscow who pointed out the possibility of antibody formation as resistance to certain drugs developed.

In Riga, Latvia, Dr. C. Ceplite and others using thio-tepa reported improvement in patients with various types of malignancies. Spreading from breast cancer was reduced in a majority of women. In patients with lung cancer, similarly treated, good results were seen. Thio-tepa is a phosphoramide that has been tested at the National Cancer Institute, Bethesda, Md.

Sarcolysine, successful in the USSR for treatment of testicular cancer, is also being used in the People's Republic of China, four doctors from Peking reported. They used N-formyl sarcolysine on 70 patients suffering from a variety of cancer, and found improvement, if not cure. Their greatest success was with cancer of the testes, but Hodgkin's disease and other cancers of the lymph nodes also regressed. Sarcolysine has only temporary side effects, which are not severe.

Endoxan was reported partially successful in treating 20 cases of leukemia and several hundred other kinds of cancer by Dr. H. Gerhartz of West Berlin. Endoxan, which is a phosphoramide ester, shows little toxicity. It is especially promising because it has little effect on blood platelets. The U.S. name for Endoxan is Cytoxan.

But far more important than treatment, scientists from all over the world at the congress agreed, is early diagnosis. Precancerous lesions, Dr. Y. M. Neiman of Moscow said, can be found in many parts of the body, including so accessible a part as the mouth.

One precancerous lesion is chronic ulceration of the leg, Dr. G. W. V. Greig of Anchorage, North Ireland, said. In ten years at a small provincial hospital he has seen about 200 cases with "gravitational" ulcers. Early treatment consists of surgery unless the ulcers improve quickly.

The all-congress lecture by Dr. Alexander Haddow of the Chester Beatty Research Institute, London, outlined advances in knowledge of the cancer-causing process since the last meeting in London in 1958.

"We have made significant progress," he concluded. "The whole subject is at a more thrilling and exciting stage than at any time in the past."

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## US Has More Betatrons

➤ THE U.S. is ahead of the USSR in the number of betatrons for the radiological treatment of cancer, Prof. A. N. Novikov of the Herzen State Institute of Oncological Research in Moscow said.

Soviet cancer detection and control appear to be more thorough, however, the surgeon said. "We screen our entire healthy population in regional dispensaries and organize a medical network on which every doctor is made cancer conscious."

Told that many U.S. patients are examined in the offices of private physicians, Dr. Novikov said he had no criticism of the U.S. system of health care but that obviously record-keeping could be more accurate in the USSR.

Eleven to 17 cancers among 10,000 population are recorded in the USSR, whereas records from one U.S. cancer institute showed 400 out of 10,000 in the U.S. A different basis of record keeping is used in each country.

On a symposium comparing survival of cancer patients with five different types of cancer in the U.S., Denmark, England, France, Norway and Finland, Dr. S. J. Cutler of the National Institutes of Health, Bethesda, Md., said the U.S. was ahead in survival of patients with cancer of the colon.

"Among male patients with localized tumors," Dr. Cutler said, "the survival rate was 66% compared with rates ranging from 49% to 60% in four of the other countries. Women in the U.S. showed 73% survival as opposed to 49% to 60% in the same four other countries."

Dr. W. Haenzel of the National Cancer Institute, Bethesda, said in opening the symposium that cancer registers had been collaborating since 1959 in an effort to straighten out areas of disagreement. Leukemia, tongue, colon, breast and testicle cancers were compared.

Cancer is the No. 2 killer in the USSR

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*INSECT KILLERS—A researcher at American Cyanamid Company's new Agricultural Research Center at Princeton, N. J., is testing on a new compound to see if it has "systemic" action on plant leaves. Insects are placed on the top of the leaf. If the compound is drawn up through the plant stem and kills the insect when it eats it, the chemical will be tested further.*