MEDICINE

Stress Cancer Prevention

The emphasis in cancer research may soon turn from the diagnosis and treatment of the disease, where there have been many advances, to ways of preventing its occurrence.

➤ LIVING HABITS, such as the foods persons eat and their smoking, have much to do with whether they get cancer and what kind of cancer, Prof. V. R. Khanolkar, the new president of the International Union Against Cancer, has reported.

The Union sponsored the International Cancer Congress that met in London, England.

Prof. Khanolkar cited the example of the Chinese who have lived in Indonesia for many generations. They have a high stomach cancer incidence, whereas the native population has a low incidence. The two groups intermingle, experience common weather and other environmental factors but maintain their own cultural traditions, including diet.

Northern Indians, as another example, Prof. Khanolkar reported, have a 14% total incidence of lip cancer while only one percent is found in Bombay residents. It is believed, he said, that the higher incidence for northern natives is caused by chewing tobacco held in the mouth. Cancer develops where the tobacco is held against the lip.

However, Prof. Khanolkar stated, oral cancer of all kinds is the commonest type of cancer in India. Stemming from an unidentified cause, the oral cancer seems to stop at the gullet's end and there is virtually no stomach cancer in India.

Moving from the diagnosis and treatment of cancer into how to prevent its occurrence was the major step forward taken by the Seventh Congress, Dr. C. P. Rhoads, director of the Sloan-Kettering Institute in New York, said.

For the first time, he said, there is general acceptance of outside causes for certain types of cancer.

This is instanced, Dr. Rhoads stated, by the virtually unanimous consensus that tobacco and tobacco smoke applied "heavily and persistently" are certain to cause cancer. If the factor involved could be determined and eliminated, the American cancer researcher said it would be a very important advance, saving hundreds of thousands of lives each year.

Present chemotherapeutic drugs alleviating symptoms and slowing the spread of cancer will be replaced by more efficient drugs as the body's chemical processes are better understood.

Dr. Rhoads said 50 agents that restrain animal cancers are now grinding through the slow mill of tests and preparation. Some may have possible clinical use within two years, he predicted, unless all prove to be false leads.

"We must change our attack if we are to achieve more lasting and regular therapeutic effects," he said. There are, he continued, "inadequate but intriguing hints that the synthesis and use of large molecules of nucleic acids will provide the specificity required to convert the cancer restraint of today to the cancer cure of tomorrow."

Nucleic acids are the chemicals that control cellular heredity and function.

The preparation of these large molecules of altered nucleic acid is going forward at the present time, Dr. Rhoads reported, and it is hoped that they will be available for clinical trials in the not too distant future.

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MEDICINE

International Cancer War

➤ SUCCESS in the fight against cancer and future complete control of this dread disease of mankind are based partially on tiny pieces of knowledge being gathered in laboratories throughout the world.

This was evident during the week-long sessions of the International Cancer Congress meeting in London, England.

Typical of the reports on research being conducted by scientists everywhere were the following:

1. Fowl, pigeons, hamsters, desert rats and rabbits are being trained to smoke in a manner resembling the human habit as much as possible. In some cases this is being done by holding the animal's "nose" so it has to breathe by its mouth. In one series of these tests, conducted by Dr. P. R. Peacock of the Royal Beatson Memorial Hospital, Glasgow, Scotland, no primary bronchogenic tumors have as yet been observed in fowls. But, Dr. Peacock said, some remote tumors that are not clearly related to smoking have been observed. Respiratory tract lesions were also found in the birds after two years of smoking.

2. Cancer cells secrete a powerful, but as yet unidentified, chemical in their late growth stages. When extracted, this chemical inhibits further growth activity of many types of cancer cells in tissue culture, Dr. James F. Holland of the Roswell Park Memorial Institute, Buffalo, N. Y., reported. Dr. Holland is trying to learn the identity of this mysterious factor that was separated from mouse ascites tumor fluid.

3. The new Russian city of Angarsk is using city planning and "a new type of heating system" that completely eliminates 3,4-benzyprene in the air. This atmospheric pollutant is suspected as one possible cause of lung cancer. The city is too new to be used to obtain any comparative results with older cities, Prof. L. M. Shabad of Kamenny Ostrov, Leningrad, told the Congress.

4. "A fight a day keeps leukemia away" is the slogan applied to the work of Dr. Paul Lemonde of the University of Montreal who has demonstrated that fighting retarded leukemia and death in mice. In leukemic strains of the animals the disease appears later and less frequently in males than in females. The death age averages 305 days for the males and 267 days for the females.

Dr. Lemonde attributes his findings to the action of sexual hormones on the basis that estrogens, female hormones, promote leukemia and that castration increases it in males and decreases it in females.

When the males were separated into groups of about five per cage, those that fought and were wounded died of leukemia two months later than a group reared individually to prevent fighting. The control males' average life span was 277 days, almost equivalent to that of the females.

The fighting activity, Dr. Lemonde concludes, is a factor, therefore, in the parthenogenetic reproduction of mouse leukemia and in the difference in the incidence and survival time between the males and the females.

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PSYCHOLOGY

Mentally Ill Children Have Bright Mothers

➤ THE MOTHERS of mentally ill children tested were found to be unusually bright. Even though eight psychotic children being treated for schizophrenia at the Emma Pendleton Bradley Hospital, Providence, R. I., tested at an average IQ of only 84, their mothers were outstandingly bright women with IQ's averaging 122.

In addition to the eight children who averaged 84, another four could not attend to the test well enough to earn any kind of score at all.

Mothers of other emotionally disturbed children, not schizophrenic, also were found to have IQ's higher than their children, although not as strikingly so. The mothers rated at an average of 108.1 as compared to 92.7 for their children.

This comparison of the IQ of emotionally disturbed children with that of their mothers is reported in the *Journal of Consulting Psychology* (June) by Dr. Anthony Davids of Brown University and the Bradley Hospital.

The findings confirm previous clinical reports that the mothers of schizophrenic children are of high intelligence. They are often college women with experience as scientists, laboratory technicians, nurses, physicians, librarians or artists. The mothers were reported as over-intellectualized and emotionally detached, putting excessive pressure on the growing baby to achieve feats of development which are considerably beyond his age level and interests.

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