

MEDICINE

Check Cancer of Bladder

Scientists studying the cause, treatment and prevention of cancers have made many advances, some of which were reported at an International Cancer Congress in London.

By ANN EWING
From London

► A SUCCESSFUL check against recurring bladder cancers has been found.

The check consists of oral lactone feeding, Prof. E. Boyland of London's Chester Beatty Research Institute told the International Cancer Congress in London. (See pp. 36, 38, 47.)

The method is presently applicable only to those persons whose bladder cancer was caused by aromatic amines, and then only after the first cancer has been detected. Researchers are now studying methods of preventing bladder cancers before they actually occur in those industrial workers that are exposed to aromatic amines, the London scientist said.

There have been no recurrences of bladder cancer among those treated with the lactone. Prof. Boyland did caution, however, that the work is only two years old and that recurrences often occur in the upcoming crucial period, the two-through-five-year period.

Speculation points to the use of the lactone treatment for bladder cancer of the general population. Bladder cancers comprise only two percent of the total number of carcinomas. This particular type of cancer, however, is extremely agonizing for the patient.

Prior to the Second World War, the successful arrest rate for bladder cancer was only six percent. Since then, the treatment by radioactive pellet has increased the survival probability to five years for 45% of the victims.

Lactone is 1-4 gluosaccharolactone. It inhibits the formation of betagluconidase in the bladder. Most men with bladder cancer excrete more of the betagluconidase and 3-hydroxyanthranilic acid than do normal persons. These are products of amino acid metabolism and produce carcinogens within the bladder itself.

It has long been known that aniline dyes cause bladder cancers. Many manufacturers discontinued the production of the most dangerous dyes or else resorted to extra precautions.

Other treatments for bladder cancer in-

clude surgical reconstruction of a new bladder from intestines or very high voltage radiation of between 2,000,000 and 20,000,000 volts.

Cancer Research Animal

► THE RUSSIANS reported a "convenient and interesting" new animal suitable for cancer research.

The animal is the steppe-lemming, a wild Russian rodent. It can be successfully bred in glass mouse jars with sawdust and hay in the bottom.

The reproduction rate and fertility of the Russian rodent is lower than that of the mouse. However, it is susceptible to the carcinogenic action of the cancer-producing chemical, DMBA. Skin tumors appeared in all the animals that survived for four or more months after the start of the experiments, and sarcomas appeared in from 50% to 85% of the animals.

Feeding the steppe-lemmings a DMBA oil solution failed to produce gastric tumors, however, unlike mice which under the same circumstances develop cancer.

Induced sarcomas have been successfully transplanted in as many as 13 generations of the rodents to date but attempts at permanent transplantation with the animals have failed. Inbreeding is continuing, Dr. H. E. Pogozianz of the Academy of Medical Sciences in Moscow told the Congress.

The development of multiple spontaneous mammary cancer in one of the female animals indicates that the steppe-lemming is suitable, too, for the study of this cancer.

Other Soviet researchers who assisted in this work are N. I. Bolonina and L. V. Olshevskaja.

(It is believed that this particular rodent closely resembles or is the Lagurus lemming, a small, soft furred, gray-brown, short-tailed, mouse-like animal. The rodent is closely related to a rare lemming that inhabits the northwestern United States.)

The steppe-lemming dwells on the level, vast treeless tracts of southeastern Europe and west central Asia.)

Cancer-Smoking Dispute

► A SIGNIFICANTLY higher death rate among regular tobacco smokers than among nonsmokers has been found in a U. S. Public Health Survey of nearly 200,000 veterans.

Dr. Harold F. Dorn, chief statistician for the National Institutes of Health, Bethesda, Md., reported to the Congress:

1. Death rate from all causes of persons using tobacco was 16 per thousand compared with 13.1 for nonsmokers.

2. Cigarette smokers had the highest death rate of all smokers.

3. The lung cancer rate for regular cigarette smokers was about ten times the nonsmokers' death rate.

4. Diseases of the heart, blood vessels and kidney accounted for nearly two-thirds of the tobacco users' deaths. Greater death rates from certain respiratory diseases such as bronchitis, pleurisy and emphysema, ulcers of the stomach and duodenum, and from cirrhosis of the liver were also reported.

Science News Letter, July 19, 1958



"EYE" FOR ASTRONOMERS—A new electronic "eye" that can see at extremely low light levels is shown with its developers, Dr. George A. Morton, left, and Dr. John E. Ruedy, at the Radio Corporation of America's Princeton, N. J., research center. The camera tube is described as having 100 times the sensitivity of the fastest known photographic film at the same exposure time. Astronomers may be able to observe previously unseen details of planets and nebulae.