

## MEDICINE

## Cancer Survival Higher

Breast cancer, the type that accounts for one out of every four cancers in women, appears to be causing fewer deaths in the United States than previously.

➤ NEARLY ONE out of every four cancers in women starts in the breast, but deaths from breast cancer appear to be declining, the Fifth National Cancer Congress in Philadelphia, Pa., was told.

Dr. Lester Breslow of the California Department of Public Health reported that from 1950 to 1960 deaths in California from breast cancer went down significantly for the first time in several decades.

He said breast cancer deaths among American women still are six times higher than among Japanese women and twice that of Chilean women. Breast cancer deaths in Belgium about equal those in the United States, while those in Denmark are greater.

The relationship of breast feeding to infant diarrhea, which is common in the newly developing countries of the world, is being studied in the hope of getting information on viruses and hormones that could have a connection with cancer.

Dr. Breslow pointed out that certain cancer-causing agents also produce non-malignant changes in the tissue in which cancer sometimes occurs. Examples are chronic bronchitis from cigarette smoking and liver damage from aflatoxin, which has been found especially in damaged groundnuts, or peanuts, in some underdeveloped lands. It can cause both cancerous and non-cancerous growths in the liver.

It would be worthwhile to devote some

effort to investigation of glandular disease of the breast as a step toward understanding malignant change and its origin, Dr. Breslow said.

Differences of opinion among the scientists taking part in the panel on cancer of the breast were seen especially in the use of newer techniques, such as radiotherapy before and after operations. Some speakers called attention to the survival rates of women undergoing simple removal of the breast, compared with those having more radical surgery involving lymph nodes and muscles adjacent to the breast.

At the Ellis Fischel Hospital, located in Columbia, Mo., 75% of patients studied would have responded as well with simple breast removal as with the more radical surgery, it was found. The simpler breast cancer treatment is possible especially when early diagnosis is made.

Data collected and reported by Dr. Walter L. Mersheimer of the New York Medical College of Surgery, with the help of Lillian M. Axtell of the National Cancer Institute, Bethesda, Md., showed that the risk of developing cancer increases with age.

Very few studies have shown more than 50% survival over five years among women undergoing all kinds of treatment now in use for breast cancer. The danger increases when the cancer spreads.

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## MEDICINE

## Nobelist Offers Hope

➤ "SOMETHING is going to crack sooner or later" in virus cancer research, which holds the most exciting prospects for scientists today, Dr. Wendell M. Stanley, director of the virus laboratory at the University of California, Berkeley, told SCIENCE SERVICE.

Dr. Stanley, among five Nobel Prize winners attending the Fifth National Cancer Congress in Philadelphia, won the Nobel Prize in Chemistry in 1946 for isolating and crystallizing the tobacco mosaic virus.

The common thread in the new approaches to the cancer problem, he said, is found in nucleic acid in the form of DNA and RNA.

Dr. Stanley, with Dr. John F. Enders of Harvard and Dr. George W. Beadle, president of the University of Chicago, told a news conference that they are optimistic about finding an answer to the cancer problem.

Dr. Enders, whose Nobel Prize was given in 1954 for research that led to both the Salk and Sabin vaccines for polio and to the measles vaccine, is now working on infectious hepatitis virus, as well as on cancer virus.

Dr. Beadle said he believes almost any-

thing a scientist works on in basic biology is likely to have a relationship to cancer. His Nobel Prize in 1958 was awarded for demonstrating that a specific gene has the information to continue the production of a specific enzyme that joins the assembly lines making up the machinery of a cell.

There are thousands of genes within the blueprint of a total cell, and the central structure of this blueprint is the substance called DNA or deoxyribonucleic acid.

Dr. Severo Ochoa, professor of biochemistry, New York University, and Dr. Arthur Kornberg, professor and executive head of the department of biochemistry, Stanford University, Palo Alto, Calif., received Nobel Prizes in 1959 for furthering this concept.

They set up test tube systems containing the chemicals found in a cell and then manufactured the two key substances necessary for a cell's day-to-day activities and for its reproduction. The one, DNA, codes the information of what the cell should do, including its reproduction. The other, RNA, ribonucleic acid, is the messenger that translates coded information to the cell's assembly lines.

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## PUBLIC HEALTH

## Throat Cultures at Home Advised by Researchers

➤ PARENTS can swab their children's throats at home and mail the cultures out for diagnosis with a new simple technique, a team of Boston researchers reported.

Special culture kits were put together for mailing to a Boston laboratory for testing the technique, which could be a valuable aid to doctors. The project was supported by a U.S. Public Health Service grant and a research grant from the National Heart Institute. Strep infections must be watched because of the danger of rheumatic fever and possible rheumatic heart disease following them.

Home cultures required three days for processing. A delay of even four or five days between taking the culture and starting penicillin treatment when strep infection is found is not a great handicap, the investigators say.

The method used in Boston was a modification of a filter-paper-strip technique. The throat was rubbed with a cotton swab, then the swab was rubbed over a sterile strip of filter paper freshly removed from a plastic container. The filter paper was allowed to dry for one or two minutes, then returned to the plastic container and either mailed or taken personally to the laboratory.

Approximately 1,100 children and adults who had recovered from previous rheumatic fever took part in the program carried on through the outpatient clinic of the House of the Good Samaritan, Boston.

Matching the results of 4,760 cultures done at home by patients with cultures taken by physicians and technicians, the filter-paper-strip method was found satisfactory despite the fact that in 8.8% of cases, contamination of the strips with some organisms was noted.

The defect was balanced, however, by the fact that some types of streptococci were isolated from the throat more often with cultures processed by the filter-paper-strip method than by the standard method.

Drs. Benedict F. Massell, Jacqueline Amezcua and J. Gabriel Michael, all of the Harvard Medical School department of pediatrics and the House of the Good Samaritan Children's Hospital Medical Center, reported the study in the *New England Journal of Medicine*, 271:581, 1964.

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## PHARMACOLOGY

## FDA Examines Two Drugs Linked to Disorders

➤ TWO DRUGS that have been linked to blood disorders are to be investigated by a new special advisory committee established by the Food and Drug Administration.

The drugs, Aminopyrine and Dipyrone, are being increasingly recommended as analgesics and antipyretics, the FDA reported. Some issues the committee will discuss are whether these drugs should be left on the market or not and if they are left on the market, how they should be labeled.

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