

MEDICINE

Blood Test for Cancer

It is based on a disturbance of albumin in the cancer patient's body which gives a peculiar clotting capacity to the blood serum.

► A GREAT "break" in the fight against cancer has come. Soon, not too many months hence you and the ones you love will be able to have periodic cancer detection blood tests. Doctors should be able to spot cancer in very early stages, just as the X-ray photograph picks up beginning tuberculosis and sugar in the urine warns that diabetes needs control.

The Huggins cancer detection method, just made known, gives promise of becoming a screening method to spot the early cancer cases.

Cancer has not been chemically cured, yet. The disarrangement of protein used in the Huggins cancer detection may be a very "hot" clue to cancer cause. But it is too early to be sure or even too cruelly hopeful.

The importance of the new prospect of cancer detection is:

Discover cancer early and something can be done about it, even now. X-ray and radium can be used to kill the wild, malignant cells that unchecked would bring sure death to the person. The surgeon's knife can extirpate cancerous growth. The figures show that nearly seven out of every 10 cancer cases can be cured, in the sense of living five years after the operation, if they are discovered early.

Your doctor can't give this test today or tomorrow. It will take months before it is perfected, completely verified and made available at hospitals and clinics of the nation. Be patient as you are alert to use medical knowledge now available. And don't get worried just because you are reading about cancer.

When the Huggins blood test for cancer is applied it probably will be something like this:

A few teaspoons of blood will be taken from a vein in your arm, a safe, not unpleasant procedure that is routine in doctors' offices today. (Millions have given their pints of blood to the Red Cross blood program, remember.)

Technicians will separate the fluid serum from the blood. They will heat it to a certain temperature, add a chemical called iodoacetic acid, and compare the rate at which the serum clots under this treatment with the clotting of normal blood under the same treatment. There is a numerical index for this which shows whether the blood comes from a cancer patient or from a person free from cancer.

The test is "not quite as good as the Wassermann test" for syphilis, according to

Dr. Charles Huggins, University of Chicago scientist who developed it.

The new test has been made on almost

ASTRONOMY

Meteors' Flight Recorded

► THE flight of meteors across the sky is being recorded in a number of ways by Canadian scientists.

"Shooting stars" are hunted visually by a team of trained amateurs and professionals. The images meteors make on the radar screen as they race by are recorded automatically on photographic film.

Near Ottawa each clear night during a well-known meteor shower an enthusiastic group of some half-dozen sky-watchers scan the heavens for "falling stars." Whenever the observers see a bit of light streak across the sky, they push a button to indicate on photographic film when the meteor was first visible. On the same film appears the meteor's radar echo.

By comprising the record of a meteor as

300 persons, divided equally between cancer patients, apparently healthy persons and patients with diseases other than cancer. The test proved positive for all cancer patients, negative for all normal persons and negative for all other patients except those with lung tuberculosis and massive acute infections. But your doctor will be able to rule out these conditions by other tests.

The test was negative in pregnancy and even on the blood of embryos of unborn

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made by several methods, astronomers are learning whether they first appear by radar or visually, how their radar echo compares in length with the time they can actually be seen, and so on.

Most of the meteor echoes, these studies show, are produced in a fairly narrow region, about 10 miles thick, some 60 miles above the earth's surface.

Radar echoes tend to appear on the radar scope just as the meteor is disappearing from sight visually. At least this seems to be true for those of the Perseid meteor shower.

These radar sets are operated by the National Research Council and the program is in charge of Dr. D. W. R. McKinley. Dr. Peter M. Millman of the Dominion Observatory organizes the observations.

Science News Letter, April 23, 1949



SKY WATCHERS—About six miles south of Ottawa, Canada, amateur and professional astronomers "lie down on the job" of watching for meteors.

MEDICINE

Antibiotic from Bananas

➤ BANANA skins, which have been called nature's germ-proof wrapper, may owe their power of stopping germ penetration to an anti-germ chemical like penicillin and streptomycin. And a banana antibiotic may prove active against fungus infections as well as against germs of the bacteria class.

Preliminary tests indicating this were reported by four U. S. Department of Agriculture researchers, W. E. Scott, Hazel H. McKay, P. S. Schaffer and Thomas D. Fontaine, at the symposium on antibiotics held in Washington under the auspices of the U. S. National Institutes of Health.

Antibiotic substances from sweet potatoes were also announced by a team of Agriculture researchers headed by B. H. Bruckner and including all but Mr. Scott of the banana investigators.

Bananas apparently produce two antibiotics. One, active against fungi, including

specifically the fungus causing wilt disease of tomato plants, has been obtained from the pulp and skin of both green and ripe bananas. The other, apparently formed during the ripening process, is active against bacteria and is found in the pulp and skin of ripe bananas only.

The sweet potato plant also produces two antibiotics, one of which has activity against fungi. Among the bacteria against which it was tested is a non-disease-producing relative of the tuberculosis germ, called *Mycobacterium phlei*. The sweet potato antibiotic seems not only to stop this germ's growth but actually to kill it.

Work on both banana and sweet potato anti-germ chemicals is in very preliminary stages. Whether any of them will become useful medicines depends on tests still to be made.

Science News Letter, April 23, 1949

Blood Test for Cancer

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babies. The fast growth in these conditions has given reactions similar to cancer in other attempted blood tests for the disease.

It will take only a few minutes of your time and only about 20 cents of your money for the test itself. Of course, if your doctor is doing it he will be giving you a general examination at the same time, to see whether you have any other ailments, and you will be paying him his regular fee for this service. The cheapness of the test itself and the fact that a technician can run 20 of them in a day are among the factors that make it suitable for mass screening at cancer detection centers.

The test is based on a disturbance in the way the body handles protein. What causes the cancer is still to be determined, but Dr.

Huggins thinks scientists can get ahead much faster now on finding the basic cause of cancer. When that is done, methods of prevention and better treatments may follow.

Researches by many scientists, going back to 1932, on proteins in the blood serum of cancer patients, gave important clues and background knowledge which led Dr. Huggins and his colleagues to the test just announced.

Dr. Huggins is already famous for his discovery of a sex hormone method for controlling prostate gland cancer. He reported his latest discovery to the American Cancer Society on the eve of his departure to deliver the presidential address before the meeting of the American Association for Cancer Research in Detroit.

His research was supported last year by an American Cancer Society grant of almost \$75,000 and will be further sup-

ported by another \$89,600 grant this coming year.

Science News Letter, April 23, 1949

On This Week's Cover

➤ THE amount of light produced by tiny radio dial bulbs is determined and recorded in a spherical chamber, developed by Westinghouse, some 200,000 times larger in volume than the bulb. When the bulb is placed, the sphere is closed. Its white insides is a perfect diffusing surface at any point where the light strikes.

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