

MEDICINE

Cow Disease Cause Of Heart Infection

► MANY PATIENTS will be saved from heart disease by an attack on brucellosis, if preliminary studies by Dr. Thomas M. Peery of George Washington University School of Medicine, Washington, D. C., prove correct.

Brucellosis is a germ disease which humans get either from working with infected cattle or from drinking unpasteurized milk from infected cows. Undulant fever and Malta fever are other names for the disease in humans. In cattle it is called Bang's disease. It causes abortion in cows.

This disease in humans leads to a chronic disease of the heart valves, calcific aortic stenosis, Dr. Peery believes on the basis of findings he reported to the American Association of Pathologists and Bacteriologists meeting in New York.

In the heart condition, the normal opening of valves is interfered with by deposits of lime salts. This obstructs the flow of blood from the heart, causing heart failure.

Diseased aortic valves, usually with deposits of lime salts in them, have been found in persons who died of brucellosis, Dr. Peery reported. And chronic disease of the aortic valve has followed brucellosis in a number of cases, he reported.

Both brucellosis and the heart condition are more common in men than in women. Brucellosis seldom occurs before the age of 30, the heart condition seldom before the age of 40, Dr. Peery pointed out.

Science News Letter, April 19, 1952

NUTRITION

Eat Wild Greens While Garden Grows

► YOUR GARDEN is planted but the first radish and carrot are not yet ready to pull and eat.

While you wait for those home grown vegetables, you might gather some wild greens that grow along the roadside and even on front lawns before the garden patch is ready. Like cultivated greens, they furnish both vitamins and minerals as well as the appetite appeal of new and often tangy flavors.

First of the wild greens to come are dandelions. Also available at this season, and in fact at all seasons, since it is an evergreen, is watercress. Check with your local health department about its safety, however, as in some localities the water it grows in might be polluted.

Besides these two greens, housewives may be able to serve, as a change from spinach and lettuce, stinging nettle, marsh marigold, dock, milkweed, chicory, wild onion, lamb's quarter, summer mustard, poke-weed, sorrel and purslane or pursley.

All members of the wild carrot family should be avoided. This includes Queen Anne's lace and other related plants with

dissected, leafy foliage, having white or yellow umbrella-like flowering and possessing a strong odor when crushed. Stems and leaves of plants with woody stems should also be avoided.

Only the tender young leaves of plants should be selected for eating. By the time the plants are in flower their flavor will be too strong. The greens, like those you buy at the market, should be thoroughly washed and all imperfect parts discarded. Young crisp leaves are nice for salad, but these wild greens can also be cooked like spinach or chard and served with butter or a sauce.

Science News Letter, April 19, 1952

BIOPHYSICS

Exploding Silver Cleans Cancer from Human Brains

► RADIOACTIVE SILVER mixed with a gelatine-like foam may do a clean-up job on minute particles of cancer tumors left in the brain after a brain cancer operation.

Dr. Theodore B. Rasmussen, professor of neurosurgery at the University of Chicago, reported that this treatment is two years away, so far as human patients are concerned. He is now studying how it works in cats.

Surgeons can many times take out only nine-tenths or nineteen-twentieths of a brain tumor, he said. At present the patient must undergo four to six weeks of daily shots of X-rays in order to clean up the part of the tumor not reached by the knife. With the new treatment, the silver-gelfoam mixture is put into the brain at the time of the operation.

The radioactive silver would shoot beta particles into the remaining cancer cells. It would lose its radioactivity after seven days. The gelfoam is absorbed by the body in about three weeks. Thus the radioactive silver would not reach other parts of the body.

Gelfoam is a synthetic substance now used to stop bleeding during a brain operation.

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MEDICINE

Cortisone Saves Little Girls From Fate of Bearded Lady

► CORTISONE, FAMOUS arthritis remedy, is now helping little girls escape a bearded lady fate and is keeping little boys from becoming big boys prematurely.

The children, 17 of them so far, were doomed to abnormal sexual development because they were born with a defect that led to overgrowth of their adrenal glands. Success in helping every one of the 17 was obtained by treatment with cortisone, which is an adrenal gland hormone. The patients were treated by Dr. Lawson Wilkins at Johns Hopkins Hospital and Medical School, Baltimore.

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IN SCIEN

MEDICINE

Anti-Vitamin C Aids X-ray Cancer Treatment

► A NEW kind of anti-vitamin treatment, this time anti-vitamin C, may be a useful aid to X-ray treatment of patients with cancer, leukemia and Hodgkin's disease.

Studies pointing toward this were reported by Dr. Theodore Miller of the Pack Medical Group, New York, and Drs. Boris Sokoloff and Walter H. Eddy of the Southern Bio-Research Laboratory, Lakeland, Fla., at the meeting of the American Association for Cancer Research in New York.

The hope from their studies is that patients kept on a diet low in vitamin C might be successfully treated with lower doses of X-rays or might be able to take larger and therefore more effectively cancer-killing doses of the X-rays.

In rats the method has been successful. Cancers in the animals were completely destroyed by an X-ray dose that would not otherwise have been effective when the animals were on a vitamin C-less diet.

The method has so far been tried on nine human patients. In four patients with advanced cancer, there were no apparent results. But in cases of liposarcoma and Hodgkin's disease, the response to X-ray treatment "appeared to be more satisfactory than expected," the doctors reported.

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BIOPHYSICS

Powerful Radiation Source Could Kill in Four Seconds

► A MAN would die within four seconds if he were directly exposed to the 5,000 curies of cobalt 60 being installed for experimental use at the Stanford Research Institute's new Radiation Engineering Laboratory. Such radiation is so powerfully penetrating that it would be partly duplicated only by about \$100,000,000 worth of radium and it is stronger than a million-volt X-ray machine.

Intended to develop industrial uses for large amounts of radiation, the new laboratory will cooperate with industry in developing practical safe systems for using atomic radiation in a large variety of ways.

The gamma ray source which is to be manufactured in the nuclear reactor at Brookhaven National Laboratory, Long Island, N. Y., will be kept in a large underground tank filled with water, and elaborate protective devices, remote control equipment, pilot plant engineering equipment, and carefully controlled conditions will safeguard this powerful source.

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CE FIELDS

NATURAL RESOURCES

Alberta to Aid California Supply Oil to West Coast

► SURPLUS OIL production in Alberta is to be added to California's supply to Pacific coastal states, probably around 1954, after a 700-mile pipeline from Edmonton, Alberta, to Vancouver, B.C., has been completed.

D. L. Roberts, vice-president of Canadian Bechtel, Ltd., Vancouver, reported to the American Society of Mechanical Engineers meeting in Seattle that California oil reserves even now are not considered adequate to supply Pacific coast demand. But though oil consumption west of the Rockies has outstripped California production, new discoveries in Alberta have made more oil available in that region than there are existing markets.

The trans-mountain pipeline will deliver 75,000 barrels a day to Vancouver. If four more pumping stations are added, the pipeline capacity can be raised to 200,000 barrels a day, Mr. Roberts said.

"According to the Petroleum Administration for Defense, there is not enough oil production in California today to meet the requirements of the armed services and civilians in the area west of the Rocky Mountains, although refining capacity is adequate if crude were available," Mr. Roberts said.

"The demand was more than 900,000 barrels a day last year and by 1960 it may reach 1,240,000 barrels a day," he added.

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GENERAL SCIENCE

Chuckles Mixed With Sneezes in Mine Story

► THERE WERE many chuckles about the Navy's Project Sneeze. Most research reports from the very scientific Office of Naval Research are deadly serious.

This one, which was published in the official Navy publication, RESEARCH REVIEWS, dated March 1952, not April 1, was played straight by several newspapers. But it was all peppery fun, the Navy's scientists admit.

Here is the official report, verbatim:

A World War II project, held under high security classification until recently, has been declassified and can now be described. This was the "gesundheit mine," developed for the Navy during the Battle of the Atlantic but never put to operational use.

It is well known that we, as well as our enemies, had proximity mines—usually acoustic or magnetic—which would detonate without actually being struck by the

ship. The chief shortcoming of these weapons was that they were non-discriminating; they were just as effective against friendly ships as those of the enemy. Project "SNEEZE" was an ingenious attempt to make the mine more choosy.

The mine was moored, set to float about 12 feet beneath the surface. When a ship approached within attack range a proximity device released the mine, allowing it to rise to the surface. A small projectile launcher, mounted on the top of the mine and trained by magnetic attraction of the ship, would then fire a canister missile onto the deck of the ship. The canister was loaded with red pepper.

A sensitive microphone pickup on the mine did the rest. If a crew member on the ship said "Gesundheit" the mine would explode; if he merely said "God Bless You" the mine would remain unarmed.

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NATURAL RESOURCES

Synthetic Natural Gas May Relieve Fuel Problem

► BECAUSE OF an increasing shortage of natural gas with respect to the number of heaters, stoves and furnaces consuming it, the day soon may come when bituminous and anthracite coal, and even such low-grade coal as lignite, will have to be burned at the mines, converted to methane and piped hundreds of miles across the country to consumers.

That prediction was made by C. R. Breck of the Southern Natural Gas Co. He said experiments conducted jointly by his company and the U. S. Bureau of Mines convinced him it would be practical to make synthetic "natural" gas by the German Lurgi process.

The Lurgi process uses a nickel catalyst to act upon gases given off by burning coal. The catalyst converts the gases to methane, a principal component of natural gas.

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INVENTION

Entire Game Scored By Bowling Machine Totalizer

► A SCORING device for bowling alleys which totalizes and scores the results of one or more players from the beginning to the end of each game has been awarded patent number 2,590,444.

Invented by Jacob Millman of Flushing, N. Y., and Howard P. Stabler of Williamstown, Mass., the machine can keep track of the scores of persons bowling individually or as team members, and whether each player is bowling on one or two alleys during the game. The machine has been assigned to the American Machine and Foundry Co., of New Jersey.

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ANIMAL NUTRITION

Feed for Chickens Simplified by Tests

► CHICKEN FARMERS are feeding their flocks "a lot of junk they don't need." Especially two amino acids previously thought to be vital parts of chicken feed have been proven to be useless.

Dr. J. A. Stekol, Lankenau Hospital Research Institute and the Institute for Cancer Research in Philadelphia, told SCIENCE SERVICE that he had made probably the first systematic study of the amino acid requirements of chickens. Amino acids are the basic building blocks of proteins, necessary to all life. New and cheaper chicken feed may come out of his study.

He fed 78 chickens every day for five weeks on amino acid combinations to discover which they needed to build proteins and which they could do without. This cost \$2.00 per day per chicken, or more than \$5,000.

He found that the chicken manufactures its own choline and that methionine can also be eliminated from the diet. Next on his program is to analyze the need for all other amino acids and then to compare the actual need with the amino acids that are found in present day commercial feed.

What holds true for chickens is also probably true for other animals and for humans, Dr. Stekol said. His studies were made in connection with finding out how different food components affect the growth of cancer cells.

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CHEMISTRY

Blue Cheese Flavor Without the Cheese

► BLUE CHEESE flavor without the blue cheese is what some scientists foresee.

They have tracked down the flavor of blue cheese, taken it out of the cheese and put it into a salad oil. They have also made the flavor synthetically. Either of these products eliminates the poor appearance, whether as a spread or in salad dressing, of blue cheese itself.

To get the oil product, well-ripened blue cheese is melted down in a hot water bath and then extracted with a vegetable oil like that used on salads. This oil, after being clarified, is suitable for immediate use, or it may be mixed with vinegar, salt and other ingredients to get a Roquefort-like salad dressing.

Methyl n-amyl ketone is used with a fatty acid, such as butyric acid, and a salad dressing base to get the man-made blue cheese flavor. Research work aimed at getting blue cheese flavor without the cheese was done at the Pennsylvania State College School of Agriculture's experiment station in State College, Pa.

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