

MEDICINE

Conquest of Liver Cirrhosis By Diet Now Seems Likely

Casein, Principal Milk Protein, and One Member Of Vitamin B Group Help Hitherto Hopeless Malady

CHEESE and a vitamin may be the future cure for cirrhosis of the liver, fatal condition once known as "drunkard's liver."

Success in both treating and preventing the condition with a B vitamin and casein, chief protein of milk and cheese, is announced by Dr. J. V. Lowry, Dr. Floyd S. Daft, Dr. W. H. Sebrell, Dr. L. L. Ashburn and Dr. R. D. Lillie, of the U. S. Public Health Service.

Laboratory rats were the patients in this work, but the report comes hard on the heels of a report from two New York doctors that human liver cirrhosis patients were successfully treated by "a highly nutritious diet supplemented with vitamin B concentrates."

Taken together, the reports suggest that the day is fast approaching when a diagnosis of cirrhosis of the liver will no longer be equivalent to a death warrant, especially since the New York doctors happened to have given their patients a diet which seems to have included the two substances that helped the rats.

Choline and casein are the two diet constituents successfully used by the Public Health Service scientists to treat and prevent liver cirrhosis in their rats. They had previously discovered they could produce the condition by keeping the rats on a diet lacking in these substances, whether or not they got alcohol with the diet.

Choline is believed to be one of the B vitamins. It is always found with these vitamins in foods and is in most vitamin B concentrates.

The New York scientists, Dr. Arthur J. Patek, Jr., and Dr. Joseph Post, started their diet treatment of human liver cirrhosis patients in 1939, more than two years before this report. They based the treatment on their observation that, in addition to signs of liver failure, the patients were malnourished and particularly lacked the B vitamins.

Almost half of these patients, 45%, were alive at the end of the second year,

they now report (*Journal of Clinical Investigation*, September).

This is more than twice the percentage of cirrhosis patients who lived two years without the diet treatment. Both treated and untreated patients had reached the stage in cirrhosis where ascites, or fluid in the abdomen, had developed. In the diet-treated patients this and other symptoms including jaundice disappeared and 20 of the 54 were well enough to resume fully their previous activities.

These patients probably got both choline, from the vitamin B concentrates, and casein, from milk or cheese which would undoubtedly be included in a "highly nutritious diet."

Proof that these two diet constituents

can relieve liver cirrhosis in human patients, however, depends on the trial of these specific substances which the Public Health Service scientists say should be made.

In the rats, the treatment helps the animals to recover by enabling the liver to regenerate or grow enough new cells to function normally and enable the animals to live. The part of the liver that has been destroyed by the disease is not affected by the treatment.

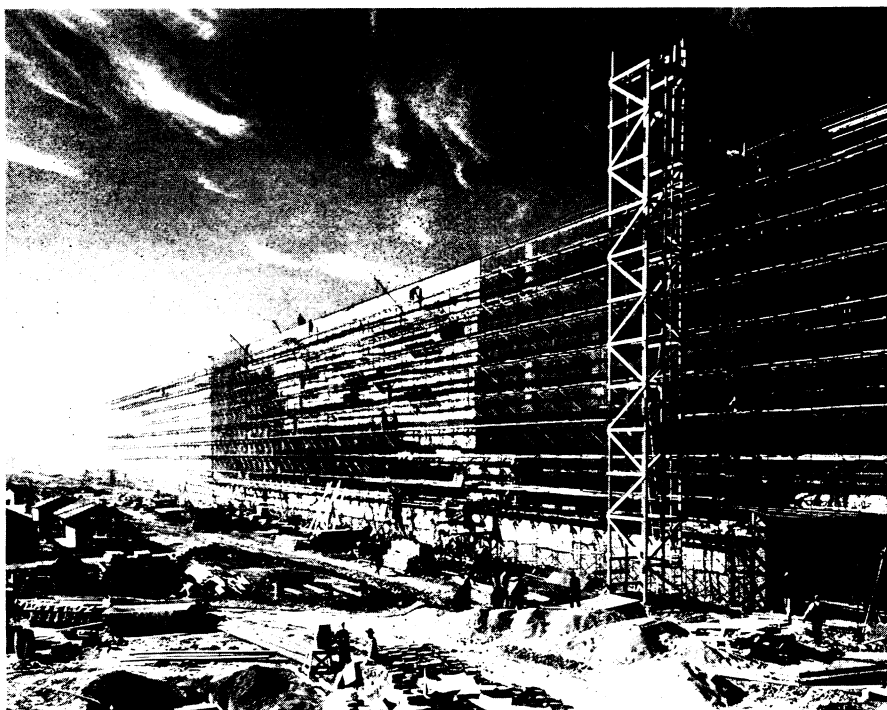
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MEDICINE

Vitamins Help Doctors Treat Rare Disease

SUCCESSFUL treatment of Raynaud's disease, characterized by spasms of the feet and hands, with the vitamin B group is reported by Dr. Rose Spiegel, Mt. Sinai Hospital, New York, in the hospital's journal (Nov.-Dec.).

The disease is most common among women and attacks are usually brought on by chilling of the hands and feet. Occasionally it is associated with thickening patches of skin on the fingers and toes. (*Turn to next page*)



ASSEMBLY PLANT

Fiberglass and steel are being used together in the walls of this huge aircraft assembly plant at Fort Worth to carry out plans of Army engineers to insure working comfort and operating efficiency in the 2,000,000 square feet of floor space within the air-conditioned, windowless layout. Consolidated Aircraft Corporation will run the plant.

In the past it has been cured by surgical removal of the nerves affecting the blood vessels of the hands and feet, but often the operations were not successful. This was especially true when the disease was limited to the hands. More conservative medical treatment was even less reliable.

Last year, however, a young houseworker with Raynaud's disease was discovered to be existing on a diet of rye bread and coffee three times a day. She was given vitamin capsules and in ten days her hands no longer blanched in cold water and the spasms disappeared.

The case led to vitamin treatment of 21 patients with Raynaud's disease at Mt. Sinai Hospital, with results which implied that vitamin deficiency is an important factor in provoking the disease. The patients were treated with either "total vitamins" or with vitamin B complex for a period of from six weeks to a year. Dr. Spiegel reports that "fifteen showed distinct relief." The vitamin B group, Dr. Spiegel believes, is the effective agent rather than the other vitamins.

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PALEONTOLOGY

Rare Fossil Beast Found Among Wyoming Treasures

BONES of one of the rarest, strange American animals of 40,000,000 years ago, spurned by pot hunters, have been happily saved for science by Smithsonian Institution paleontologists.

Found in Wyoming in the Bridger Basin region, the long-extinct creature is a stylinodont. Dr. C. Lewis Gazin, discoverer of the rare fossil, says that stylinodonts looked very much like sloths, but were not ancestors of South America's present-day sloths, nor of the ground sloths that were in existence in our country as recently as the last Ice Age. Pronounced "one of the most interesting finds of the summer," Dr. Gazin's stylinodont was found partly dug up by amateurs of the un-scientific-minded variety dubbed "pot hunters." Probably, he says, they thought the bones unimportant.

A giant squirrel that was about as big as a woodchuck is another find of the season by Dr. Gazin. Its skull was three to four inches long. Modern squirrels cannot claim Paramys, as the big squirrels are called, for their direct ancestors. These giants apparently vanished millions of years ago, while some smaller and more alert relatives survived to perpetuate the squirrel line.

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CHEMISTRY

Gasoline and Rubber Produced By "Freezing" Waste Gases

Process Hitherto Used Mainly by Russians Tried With Promising Results by American Oil Technicians

HIGH octane gasoline and synthetic rubber can be produced from waste gases of the steel and petroleum industries by application of a low temperature technique secretly developed in Russia, Prof. Cecil T. Lane of Yale University announced in an address to the Sigma Xi Society, in New Haven, Conn.

These gases are mixtures of valuable industrial gases, Dr. Lane continued. Each has a different liquefaction and freezing point, so that by lowering the temperature far below the freezing point of water, the different gases may one by one be frozen out and separated into pure components. Then they can be put together again in the various ways and proportions necessary to produce gasoline, rubber, and other vital defense materials, for which they provide an almost inexhaustible source of raw materials.

The surprisingly strong resistance of the Russians to the German invasion, Dr. Lane attributed in large part to their development of the low temperature industry, in which they were far ahead even of Nazi Germany. In this country the industry is only in its infancy, but Dr. Lane foresaw that it would open up many new avenues in synthetic manufacturing.

Dr. Lane demonstrated the Peter L. Kapitza machine for producing liquid helium at a temperature 455 degrees Fahrenheit below zero. It is the only machine of its kind in the Western Hemisphere and there are only five other places in the world where liquid helium can be produced. The machine was built from a sketch sent from England before the outbreak of the present war.

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ASTRONOMY

Mexico To Have Most Powerful Telescope in the Tropics

Site 8,000 Feet Above Sea Level Considered Highly Favorable For Observations in Southern Hemisphere

MEXICO is building a new national observatory which will house a 24-30 inch Schmidt photographic telescope, the most powerful in the tropics, Dr. Bart J. Bok, astronomer of Harvard College Observatory, has announced (*Sky and Telescope*).

Other equipment will include a 12-inch reflector for visual observations and two or three cameras of the Ross type with apertures of three to five inches. All equipment will be purchased with funds provided directly by President Camacho of Mexico.

The observatory will be located on a hill ten miles south of the city of Puebla, which is 80 miles east of Mexico City. This is a very favorable location for observation of the southern hemisphere. Latitude of the observatory is 19 degrees

north of the equator, which means that the sky can be seen to within 19 degrees of the south celestial pole. The site is nearly 8,000 feet above sea level.

The work of the observatory will tie in closely with that of the Harvard College Observatory and of the Mexican observatory at Tacubaya. It will consist largely of observations of southern variables and of star counts, colors, magnitudes and spectra for the southern hemisphere.

Director of the observatory will be Luis Enrique Erro, assisted by Dr. Carlos Graef, both of whom have already spent a year at Harvard College Observatory with its director, Dr. Harlow Shapley.

Formal dedication of the new observatory is expected to be in February.

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