

PHYSIOLOGY

# New Vitamin, Choline, May Aid In Diabetes Control

Present in Meat, Egg Yolk, and Yeast, It Is Needed For Liver Functioning; Lack Causes Fatty Liver

**A** NEW vitamin which is essential for liver function and which may play an important role in controlling diabetes was described at the meeting of the American and Canadian Medical Associations by one of its discoverers, Dr. C. H. Best of Toronto, co-discoverer of insulin, the life-saving remedy for diabetes.

The new vitamin has a real name, choline, instead of a letter as do most other members of the vitamin family. It is found in many foods, but the best sources are meat, egg yolk and yeast.

Dr. M. Hershey and Miss M. E. Huntsman, of the University of Toronto, were responsible for many of the fundamental observations that led up to the discovery of the significance of choline, Dr. Best stated.

Lack of this vitamin causes the serious condition of fatty liver, Dr. Best said. When the liver becomes fatty, it fails to make sugar or handle bile or do many of the things it should do, he explained.

The vitamin was discovered in the course of insulin investigations. Dogs that had no pancreas, the insulin-secreting organ, failed to live for more than a few months, even when given insulin injections. When they were fed minced pancreas, in addition to the insulin, they lived for years.

However, chemical studies of the pancreas showed that in addition to producing insulin and a digestive ferment, this organ contained choline, and that it was the choline in the diet of minced pancreas that kept the dogs alive after they had lost their own pancreases.

## Serious in Humans

Cases of fatty liver in human beings, a serious condition of ill health, may be due to lack of choline in the diet; but Dr. Best did not discuss this point.

The choline discovery has thrown further light on the diabetes problem. The latter condition is a liver disorder rather than a disorder of the insulin-producing pancreas, it now appears.

"The pancreas is not always to blame in cases of diabetes," Dr. Best declared.

Diabetes may be caused in three dif-

ferent ways: the liver, as the result of injury or disease, may become too active and make too much dextrose sugar from the starches, sweets and proteins eaten; or the liver may become overactive due to lack of insulin (the usual explanation though not necessarily the usual cause of diabetes); or, finally, the pituitary, thyroid and adrenal glands, either alone or in combination, may become overactive and affect the liver through their relation with the insulin-producing part of the pancreas.

The pancreas was evidently at fault in the first case of diabetes treated with insulin, that of Leonard Thompson, of Toronto. Following Mr. Thompson's death from pneumonia in April, 1935, autopsy examination showed remarkably few of the insulin-producing islet cells in the pancreas.

This patient, who as a lad was dramatically rescued from danger of diabetes by treatment with some of the first insulin ever produced, grew careless about his diet when he grew older. As a result, he developed diabetic coma and then pneumonia. The physicians were able to relieve the diabetic condition again by insulin but they could not save him from the pneumonia.

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NUTRITION

## Destiny of Man Can Be Controlled Through Diet

**"M**AN'S place in future history will depend in no small degree on the food he eats."

This prophecy was made by Dr. James S. McLester of Birmingham, Ala., president of the American Medical Association, in his presidential address before the joint sessions of that organization and the Canadian Medical Association.

Longer life, larger stature, greater vigor and a higher level of cultural attainment are promised to those races of man that take advantage of the new knowledge of nutrition, Dr. McLester said. Man is no longer a puppet of Fate but through scientific advances in the study of foods and health he can now to



### NEW YORK'S NEWEST BRIDGE

*Triborough Bridge, linking New York's Boroughs of Queens and the Bronx, takes shape. View above shows workers' catwalks on bridge structure spanning famous Hell Gate channel. Financed with PWA funds, the new bridge will be the fifth crossing the busy East River which separates Long Island from the rest of New York State. Others include the Brooklyn, Manhattan, Williamsburgh and Queensborough Bridges.*