MEDICINE

Vitamin May Be One Key To Diet-Cancer Problem

Latest Experiments Indicate Biotin Favors Growth Of One Kind of Liver Cancer, Nullifies Preventives

ONE of the vitamins, biotin, may be one key for solving the problem of whether cancer can be caused or controlled by what you eat. This is a burning question in medical research right now. Important new knowledge is expected within the year and it is believed quite possible that something practical may come from the present research leads.

Latest reports show that biotin favors the development of one kind of liver cancer in rats. Experiments in which this discovery was made are reported by Prof. Vincent du Vigneaud, Dr. Juliet M. Spangler and Dr. Dean Burk, of Cornell University Medical College and the National Cancer Institute, and Dr. C. J. Kensler, Dr. K. Sugiura and Dr. C. P. Rhoads, of Memorial Hospital, New York (*Science,* Feb. 13). Similar results have been obtained by Dr. Paul Gyorgy, Dr. Landy and Dr. H. Goldblatt of Cleveland.

Biotin is found in yeast, liver and many other plant and animal tissues. But don't let that stop you from eating liver or yeast bread or yeast itself. No experiment has yet been reported in which cancer was cured by a diet low in biotin.

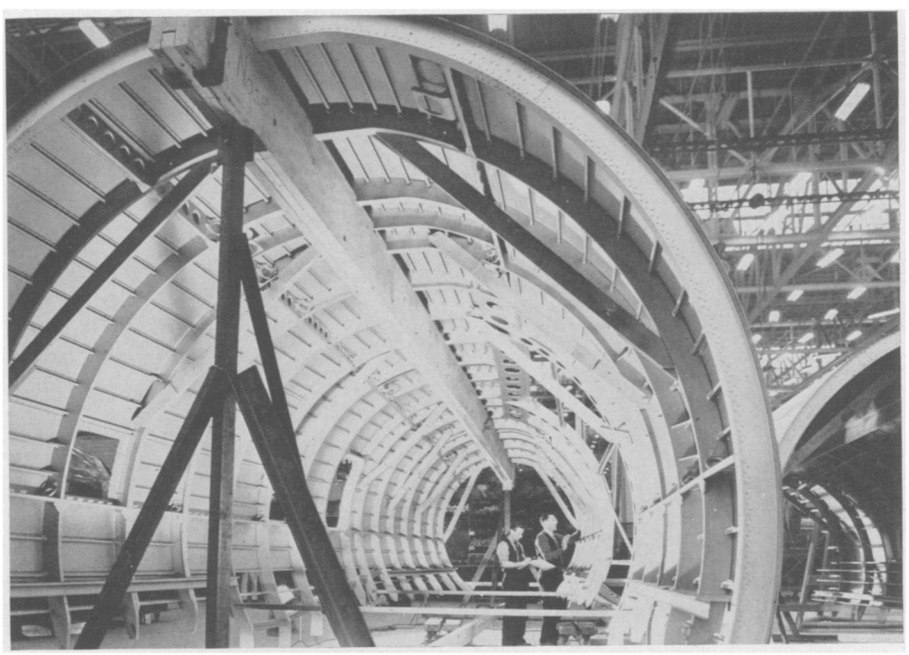
Egg white contains a substance, avidin, which combines with biotin and if enough avidin is fed an animal, he becomes deficient in biotin. Unfortunately, he also becomes very sick. It would be logical to suppose that experiments are under way or soon will be to determine whether by using the proper amount of avidin, just enough biotin can be removed to stop its cancer-promoting activity without removing so much biotin that the animal becomes sick.

Biotin, the present experiments show, nullifies the cancer-preventing effects of diets recently found to protect rats against liver cancers. When these animals are fed a dye called butter yellow, 96 out of every 100 have liver cancers at the end of 150 days. When they are given riboflavin (one of the B vitamins) and casein, chief protein of milk, only 7 out of 100 get liver cancer from the dye. Cystine and choline also have a cancer-preventing effect. But when biotin is added, the riboflavin and casein fail to protect the animals against the butter yellow liver cancers.

Whether any vitamin or chemical other than biotin can break through the riboflavin-casein protection against cancer is not yet known. Nor do the scientists know yet whether the cancer-favoring effect of biotin takes place in man or animals other than rats, or whether biotin favors or enhances the cancer-causing action of other chemicals, such as those in coal tar which caused chimney-sweeps' cancer and mule spinners' cancer. When these questions have been answered they may know how, or whether, humans can be saved from cancer by diet.

Butter yellow, which caused the liver cancers in the rats, is providing another clue. This dye has nothing to do with butter, in spite of its name, and is not contained in any foods humans eat. The fact that it would cause liver cancer in rats when fed to these animals with a diet of brown rice and carrots was discovered by a group of Japanese scientists headed by Dr. R. Kinosita. Other Japanese scientists, W. Nakahara, K. Mori, T. Fujiwara, and T. Ando, reported that liver and yeast protected the animals against the butter yellow cancers.

Prof. du Vigneaud and associates and other scientists who were then investigating the role of biotin in the body suspected that it might be the substance in yeast and liver which had the cancer-preventing effect. In preliminary experiments, very crude biotin preparations from yeast and liver did show signs of protecting against the butter yellow cancers. But when pure crystalline biotin



HOW IT LOOKS INSIDE

Interior of the new giant Curtiss Condor III, or C-46, first of a large but undisclosed number of these great 2-engine Army transports now under construction. The plane will have a wing-span of 108 feet and a gross weight of more than 50,000 pounds. It was originally designed to transport 36 airline passengers and heavy mail and express cargo. Militarized, it is expected to accommodate many more than 36 fully equipped infantrymen. Prototype of the Condor III is the Curtiss CW-20 which was received enthusiastically by the British who renamed it the St. Louis. The St. Louis was recently flown across the Atlantic non-stop.