

MEDICINE

Diet for Jaundice Patients

Prisoner volunteers given viral hepatitis prove that jaundiced patients should be allowed to eat what they like, rather than be kept on high-protein diet.

► **JAUNDICED PATIENTS** suffering from the liver disease, viral hepatitis, should be allowed to eat what they like. They will do better, have fewer complications and get well faster.

Some may even be saved from death.

This reverses the diet treatment usually prescribed for such patients.

Since diet is the only treatment doctors have for hepatitis, this revolutionary idea, proved by a Public Health Service study with prisoner volunteers, is particularly important for the thousands of patients afflicted by this increasing and serious sickness.

The Public Health Service study is the first completely controlled study ever made of diet in hepatitis. The findings were reported by Drs. N. C. Leone, Frank Ratner, William C. L. Diefenbach and Roderick Murray, and Miss Miriam G. Eads, dietitian, and Jacob E. Lieberman, statistician, of the National Institutes of Health, Department of Health, Education and Welfare, to the New York Academy of Sciences.

The usual diet for patients with viral, or serum, hepatitis has been high in protein, such as meat, eggs, cheese and so on, high in starches and sweets, and low in fat. Patients got jam instead of butter on their bread, boiled instead of fried eggs, coffee, tea and breakfast cereal without cream, and so on. They were forced to eat lots of protein, though they had no appetite.

They were given extra protein by injections of special protein preparations for vein feeding.

This diet developed from findings of a relation between diet and certain types of liver injury in laboratory animals. Whether or not it helped human patients with viral hepatitis was not definitely known. For one reason, no one has ever been able to give this disease to a laboratory animal for experimental study of it.

For another, diagnosis of the disease is not always made at its start in humans and it lasts so long, often many months, that accurate diet studies have been difficult.

Dr. Leone and associates got around these difficulties by making studies on prisoner volunteers who were deliberately given hepatitis. The doctors knew the health of the men before the start of the study. They knew about when they would first come down with pre-jaundice symptoms of weight loss and a little nausea.

When this stage was expected, the human guinea pigs were examined every day and at the first sign of illness, certainly at the beginning of the acute, really sick and jaundiced stage, the prisoners were put in the hospital and the diet study begun.

Of 67 volunteers, 32 were put on a "special diet," the high-protein, high-carbohydrate, low-fat diet that has been practically standard for serum hepatitis patients for some years. The other 35 were in an "ad lib" group, eating what they wanted of the food provided for the general institution population. If they wanted more or less of some food, they could have it.

Duplicate meals of everything eaten by each patient in each group were made up. These were weighed and analyzed chemically, so the doctors knew exactly how much of each kind of food the patients actually ate.

A dramatic change in eating by the "ad lib" group occurred during the acute stage of the illness. This actually marked the end of the acute stage. The patients suddenly developed voracious appetites and started eating more than those on the forced high protein diet were eating. The change was very sudden.

A patient might be sick in the morning, but that evening so hungry he could not get enough to eat.

Apparently this was the point at which the sick liver had regenerated itself and could handle quantities of food chemicals again. Trying to load the liver when half of it, perhaps, has been knocked out by the disease is ridiculous, in Dr. Leone's opinion. The sick liver should have rest. And the results of the study bear this out.

Of patients on the special, high protein diet, 18 were very sick, had relapses and complications, took a long time to get well, and four went into coma and one died. Among the patients on the "ad lib" diet, there were no deaths and none going into coma and only seven that had relapses or prolonged illness.

Both chemical tests of liver function and examination of the patients showed that those on the "ad lib" diet had a shorter period of acute illness and recovered faster when the acute stage was over.

The human guinea pigs for this study were prisoners volunteering for it at U. S. Penitentiaries at Lewisburg, Pa., and McNeil Island, Wash.

Dr. Leone and associates gave them hepatitis in one of four ways: 1. by pooled blood plasma known to have the serum hepatitis virus in it; 2. by the same plasma that remained in infective after treatment by various methods intended to make it non-infectious but which failed; 3. by plasma from six suspected carriers of the hepatitis virus, five of whom were later proved to be carriers; and 4. by blood thrombin from a commercial batch reported to have caused hepatitis cases.

Some of these infecting materials made the men sicker or made the sickness slower in developing. However, once they got hepatitis, the high-protein diet made it worse.

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METEOROLOGY

Precipitation Forecast Next Computer Problem

► **FORECASTING RAIN** or snow is the next problem meteorologists will attack, using giant electronic "brains." Weathermen assembled for a workshop on Numerical Weather Prediction, as using computing devices to aid forecasting is termed, know that electronic "brains" can show wind flow and pressure patterns.

This, however, Dr. Jule Charney of the Institute for Advanced Study, Princeton, N. J., pointed out, is not "weather as it affects you and me." The local forecaster must judge on the basis of these charts whether rain or clear skies are on their way. And weathermen know that there is no simple relation between wind flow and where and how much rain or snow falls.

As Dr. J. Smagorinsky of the U. S. Weather Bureau said, wind flow is a large-scale effect, whereas in forecasting precipitation, small-scale effects are dominant. Being able to forecast these small-scale effects accurately is the problem numerical weather prediction experts are now tackling.

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INVENTION

Patent Given Pointless Pen

► A **MINOR** tremor was felt in the Patent Office when a pointless, ball-less "writing instrument" that may start another shake-up in the fountain pen business was granted a patent. Created by a Parker Pen Company employee, Ernst W. Rickmeyer, the device has a cone-like tip made of sintered metal.

Tiny capillary holes in the tip permit the thick ink to filter through and rub off on the writing surface. The pen doesn't leak when not in use, nor does it need to be shaken violently or rolled over scratch paper to get it started after long disuse. A special feeding system permits all the ink to be consumed before another cartridge is needed.

"As of the moment, this pen is just a new idea," A. R. Roalman of the Parker Pen Company said.

"The boys are just fiddling around with it in the laboratory. They say it is good enough to patent, but they must get some bugs out of it before we can market it."

It is too soon even to predict whether the pen will be manufactured at all, Mr. Roalman reported. At the earliest, it probably will not make a commercial debut for several years. Patent No. 2,666,416 was assigned to Parker for the pen.

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