

medical sciences

OBESITY

Physicians launch organization

Doctors engaged in treating obese patients have formed a nonprofit organization with headquarters in Washington, D.C., to launch an all-out research effort to pinpoint the mysteries underlying this major health problem.

Dr. Howard E. Retzer of Englewood, Colo., is president of the organization, which is incorporated as The Research Institute of Metabolism and Nutrition.

CANCER DRUG

Enzyme readied for big trials

Scarcity of the promising anticancer enzyme L-asparaginase, which attacks malignant cells while bypassing healthy ones (SN: 12/16/67, p. 582), may be overcome by one or more new production processes underway in several drug companies.

Dr. Joseph Roberts, a senior investigator at the Wadley Institutes of Molecular Medicine in Dallas, has developed one process and has licensed Truitt Laboratories to produce his highly purified enzyme on an industrial scale.

According to the July 26 issue of *MEDICAL WORLD NEWS*, these laboratories are making between 10 million and 20 million international units of L-asparaginase each week, which is enough for experimental treatment of 10 to 20 leukemia patients.

Dr. Roberts' method boosts the L-asparaginase yield of a strain of the intestinal organism *Escherichia coli*, which naturally produces the enzyme. After culturing the bacteria, the researchers extract the L-asparaginase with alcohol, then separate the extract in a refrigerated centrifuge.

The National Cancer Institute has awarded a number of grants for L-asparaginase research.

The enzyme has worked in patients who no longer respond to other drugs.

SHOCK

Special diet protects intestines

The severe damage done to the intestines and such organs as the heart, lungs, liver and kidneys as a result of shock is being treated experimentally by a simplified diet by a Montreal General Hospital medical research team.

A preliminary finding in the three-year study under Dr. Fraser N. Gurd, chief surgeon, is that the intestines play a key role in shock that may follow severe injury or major surgery.

Dr. Gurd's team finds that when blood flow is reduced in animals by shock, the vitality of the mucus membrane is lowered and the secretion of mucus that normally protects the intestine wall is reduced. With loss of the mucous coat the bowel becomes vulnerable to a variety of toxic products that may then pass through the bowel wall into the blood stream.

The researchers worked out the diet, which will be tried on humans, using simple amino acids, which are constituents of protein, along with sugars, emulsified fat, vitamins and minerals. When fed to experimental animals for three days before induced shock, the diet afforded a

high degree of protection against the damage that usually occurs.

The diet is designed to take the burden of metabolizing food off the intestine of the shock patient.

STRESS

Heart rates of drivers studied

Heart specialists from London's Middlesex Hospital are touring motor race circuits in Britain and the European Continent this summer to record the heart beats of racing drivers in action.

Selected drivers, with minute radio transmitters taped to their chests, are being monitored throughout their races by the team operating from a bus in the center of the circuit. The bus will contain a radio receiver coupled to an electrocardiograph recorder and an oscilloscope that will record the rate and wave form of the heart beat.

Preliminary tests have shown that drivers developed rapid heart rates before a race started, and 15 minutes before the race, heart beats were between 150 and 180 per minute instead of the normal 70 to 85.

Last year the *BRITISH MEDICAL JOURNAL* published the team's initial results of an investigation into the effects of driving around Trafalgar Square in rush hour. That activity sent heart rates to 140 beats a minute.

ARCHAEOLOGY

Early Indians had arthritis, caries

Severe arthritis and very bad teeth were among the ailments of Ohio Indians about A.D. 900 whose burial ground has been dug up some 80 miles west of Cleveland.

Medical and dental scientists at Case Western Reserve University who have examined 250 skeletons say nearly all reveal disease, injury or genetic abnormalities.

Arthritis was so prevalent that every skeleton 18 to 40 years old showed some form of the disease in the lower back, hip or wrist. Tooth disease was far worse in this population than has been reported from other primitive peoples. Seventy percent of the skulls examined showed abscessed teeth, more than half had lost one or more teeth from gum disease and only three did not have caries.

The Indians ate mostly fish; there is no evidence of sugar and starch in their diet.

LUNG CANCER

Mosquito coil warning

People in the warmer parts of Australia who burn mosquito coils at night could be running the risk of getting lung cancer, two Brisbane chemists warn.

They found suspected cancer-causing chemicals in smoke from these coils, and discovered that one of these, called diphenylamine, was in much greater concentration than in the tars of cigarette smoke.

Mosquito coils are made from the pyrethrum flower, a complex natural product. Smoke from the burning coils has two phases—a vapor phase and then visible smoke carrying particles of extremely small droplets that form tar. Both phases contain trace amounts of possible carcinogenic material.

10 august 1968/vol. 94/science news/135