

MEDICINE

Virus Causes Excess Fat

Japanese encephalitis virus has produced excessive fats in the blood plasma of chicken embryos but exactly how it does this is not yet known.

► A VIRUS that produces excessive fats in the blood plasma of chicken embryos could widen opportunities for research on fat-clogged arteries.

Excess fat in the blood plasma can also be inherited, or can occur in diabetes, in certain types of cirrhosis and in some cancers, including carcinoma of the breast.

Japanese encephalitis virus produced the excess fat, or hyperlipemia, two Cornell University Medical College microbiologists, Drs. Sidney E. Grossberg and William M. O'Leary, said.

Exactly how the virus causes hyperlipemia is not yet known, nor is the role of lipids in fighting viral infections.

They infected 12- to 15-day-old chicken embryos with Japanese encephalitis virus that had originally been taken from mosquitoes.

The embryos later developed hepatitis. The virus delayed the time of hatching, made the chicks so weak they could not stand and soon caused their death.

It was already known that the chicken

embryo fats are produced as well as withdrawn from circulation by means of the liver, and the researchers speculate that since hepatitis was present, the liver may not have been able to perform its metabolic functions adequately.

Another possibility is that introduction of the virus causes suppression of enzymes necessary for the normal metabolism of lipids in the embryo.

Japanese encephalitis is a disease involving severe brain inflammation. Every year it appears in many parts of the Far East. The virus causing it is very similar to that causing St. Louis encephalitis in the United States.

The research, reported in *Nature* 208:954, 1965, was a transatlantic collaboration. Dr. Grossberg was spending a year at the Pasteur Institute in Paris, working in the laboratory with Dr. Andre Lwoff, who this year shared the Nobel Prize in Physiology or Medicine with two other Pasteur Institute scientists.

• *Science News Letter*, 89:51 January 22, 1966

PUBLIC HEALTH

Drug for Schistosomiasis

► THE FIRST DRUG which effectively cures and controls a parasitic disease rife throughout the tropics is to be made in a new \$1.5 million plant under construction at Grimsby, England, for CIBA United Kingdom Ltd.

Some 250 million people in countries in the Far East, South America, Egypt, the West Indies and around the great lakes of Africa are affected by bilharziasis, which is caused by a minute worm hatching out in the body from waterborne larvae. Another name for the disease is schistosomiasis.

The cost of the tablets, which are like large aspirins, for the one week it takes to kill off the parasitic worms in the body would be roughly \$3.00.

The overall effect of schistosomiasis is serious debilitation, but it is at the root of many disorders because of this, and control of the disease could spell important social and economic effects in the countries where it is achieved.

CIBA has been working on the new drug, called Ambilhar, since 1961 and so far 2,000 sufferers have been treated with outstanding success.

The company reports that side effects are negligible and that the new drug is far less toxic than other compounds hitherto used in attempts to cure the disease.

An interesting after effect was that the body appeared to build up some natural

immunity against attacks of the parasite which had not been found to occur with other drugs.

Because it was so difficult to insure control of the natural habitat of the parasite, especially with the construction of large hydroelectric and irrigation schemes in the areas where it was endemic, it might well be that regular medication with Ambilhar would have to be practiced.

The parasite is not expected to acquire immunity to the drug.

The company has been working closely with the World Health Organization and the Liverpool School of Tropical Medicine in its field tests with the new product.

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MEDICINE

Identical Twins Inherit Coronary Artery Disease

► HEREDITY is more important than environment in a rare documented case of identical twins having coronary artery disease.

A pair of twins, aged 43, were compared with two other brothers from the same family, aged 42 and 44. All four brothers had similar smoking and drinking habits, and similar diets—meat, potatoes, little milk, few other dairy products and very few

vegetables. There was also a large consumption of food fried in animal fats.

Occupations were the same for one of the twins and one other brother, as they were partners in a supermarket. The other twin was a court reporter, and the remaining brother was an engineer in the Air Force. The brothers were of Irish extraction.

Despite the similar backgrounds of all four, the twins alone showed "widespread, severe" coronary artery disease. In addition, a blood sugar test showed that the twins were "prediabetic." Atherosclerosis, fatty deposits lining the blood vessels, often appears in diabetes.

Drs. James J. Sidd, Arthur A. Sasahara and David Littmann, all of the Veterans Administration Hospital, West Roxbury, Mass., and Harvard Medical School, Boston, reported their findings in the *New England Journal of Medicine*, 274:55, 1966. Dr. Littmann is also a lecturer in medicine at Tufts University School of Medicine, Boston.

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MEDICINE

Tonsillectomy Linked To Multiple Sclerosis

► A YOUNG ADULT who had his tonsils removed as a child is about 1.7 times as likely to get multiple sclerosis as is the person who did not.

In the search for a cause of this neurological disease that cripples men and women between the ages of 20 and 40, ultimately resulting in death, Dr. David C. Poskanzer of the Harvard Medical School studied childhood medical histories of 240 MS victims.

Tonsillectomy was of particular interest since the operation predisposes a child to the development of neurological complications in poliomyelitis, the researcher said in a report published in *The Lancet* 2:1264, 1965. Appendicitis operations also were noted, with an apparent MS increase among individuals who have had an appendectomy, especially men.

Tonsillectomy frequency was compared between brothers and sisters and between husbands and wives at multiple sclerosis clinics of the Massachusetts General Hospital, the Tufts-New England Medical Center and the researcher's private practice. The 1.7 increase was found among those who had the operation.

Further study of appendectomy patients is suggested, since men only were studied among those undergoing appendicitis operations, and two-thirds of the patients with MS are females, Dr. Poskanzer said.

He suggested that a factor outside the body plays a role in the cause of MS, and that it "may well be active in childhood many years before the development of the disease."

The U.S. Public Health Service aided the research with a grant to the Harvard School of Public Health and to the Massachusetts General Hospital. Dr. Poskanzer is on the staff of the department of preventive medicine and neurology, Harvard Medical School, and of the hospital.

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