

PUBLIC HEALTH

Sugar Substitutes Safe?

► FEAR that sugar substitutes are being excessively used in soft drinks and other beverages as well as in canned fruits, baked goods, desserts and other foods has led The Medical Letter, 6:1, 1964, to warn physicians to discourage the use of saccharin and cyclamate for general consumption.

"Originally intended for special dietary purposes," referring to the use of these chemicals for severe diabetes or other conditions in which sugar is undesirable, the publication stated that "the use of artificially sweetened food and drink has become the vogue even when there is no need to limit caloric intake."

The Abbott Laboratories, North Chicago, Ill., however, has sent to the U.S. Food and Drug Administration a preliminary report showing no untoward effects on children tested for several months.

No damage has been shown so far when a child drinks or otherwise ingests one and one-half grams of artificial sweetening (cyclamates) to each 30 pounds of weight. Studies are continuing to find out whether large amounts of cyclamate as a sugar substitute could be dangerous.

The FDA has based its safety evaluation of saccharin and cyclamate on a report

originally made by the National Research Council in 1955 and revised in 1962. Both of these artificial sweeteners are believed harmless in the small amounts suggested for "special purpose foods."

Cyclamate, which was produced by the Abbott Laboratories in 1951, "need not be classified as an unsafe chemical on the basis of present evidence," said the policy statement of the Food and Nutrition Board of the National Research Council, National Academy of Sciences-National Research Council.

However, it continued:

"... uncontrolled use by some individuals might result in intakes which produce undesirable physiologic effects. At intakes of five grams or more per day, cyclamate has produced a mild laxative effect. . . . It is only one-thirteenth as sweet as saccharin, which means that its concentration in foods in which it might be used as a sweetening agent is relatively large."

The Medical Letter pointed out that sugar is an important source of energy for children and suggested further study by FDA separately from the National Research Council.

• Science News Letter, 86:196 Sept. 26, 1964

IMMUNOLOGY

Ills Due to Self Allergy

► THE MUSCLE WEAKNESS DISEASE myasthenia gravis, which affects up to 50,000, mainly young women, in the United States, has been attributed to self allergy, or autoimmunity.

Dr. Arthur J. L. Strauss, formerly of Columbia University, New York, and now a staff member of the National Institute of Allergy and Infectious Diseases, Bethesda, Md., said that other diseases also are being attributed to autoimmunity, but more research is needed.

Multiple sclerosis is possibly an autoimmune disease, but more certainly is hemolytic anemia, a disease of red blood cell deficiency, and thyroiditis, or inflammation of the thyroid gland in the neck.

Myasthenia gravis is best known to the public through advertisements showing a woman with a drooping eyelid, but this is only the most obvious symptom.

General fatigue and weakness of the entire skeletal muscle system marks this chronic and usually fatal disease. As a rule it appears first in the muscles of the face and throat.

Babies are sometimes born with weak cries and weakness in nursing at the breast, but if help is given them in the first few weeks of their lives, the later ravages of myasthenia gravis do not appear. The disease attacks both sexes.

Disturbance of the mechanism that produces a substance called acetylcholine apparently causes the weakness, and in babies some other substance seems to travel through

the placenta in the mother's womb.

The drug Tensilon, no longer used to treat myasthenia gravis, is still one of the best tests for the disease in adults, Dr. Strauss said.

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CHEMISTRY

Brighter, Longer Lasting Light Bulbs Conceived

► TOMORROW'S incandescent lights may burn brighter and last longer, thanks to the calculations of a West German chemist.

Dr. Johann Schroeder of the Philips Zentrallaboratorium, Aachen, told the 148th national meeting of the American Chemical Society in Chicago that efficiency can be increased 50% and filament life extended indefinitely by inserting a trace of flourine gas into light bulbs.

He said his calculations show that the fluorine will combine with the atoms of tungsten that have been "boiled off" from the filament, forming tungsten fluoride gas. Molecules of this gas will then be decomposed when they come in contact with the hot filament, and deposit the tungsten back onto the filament.

This will prevent the filament from wearing out, and will also keep light bulbs from becoming darkened by deposits of tungsten on the inner surface of the bulb.

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Questions

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PUBLIC HEALTH—How many persons in the United States each year are hit by arthritis or rheumatism? p. 194.

SPACE—What will be the function of the "wings" of the satellite Pegasus? p. 198.

VIROLOGY—Which viruses cause the familiar "runny nose"? p. 195.

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