

Sweet remembrances

Scientists hoping to promote better memory through chemistry say the simple sugar glucose provides some sweet clues. In fact, a drink of glucose-flavored lemonade markedly improves the performance of elderly volunteers on tests of long-term verbal memory, according to a report in the September *PSYCHOLOGICAL SCIENCE*.

Proper glucose regulation apparently plays an important role in verbal memory and possibly other types of recall, assert psychologist Carol A. Manning of the University of Virginia in Charlottesville and her colleagues. For example, the researchers found that nondiabetic, elderly individuals who display unusually large jumps in blood glucose after consuming a glucose drink, indicating poor regulation, displayed the poorest verbal memories.

Manning and her co-workers recruited 17 healthy volunteers between the ages of 62 and 84. On two consecutive mornings, each participant entered the laboratory after fasting the previous night and drank an 8-ounce glass of lemonade sweetened with either glucose or saccharin. Blood glucose levels were monitored for the next 90 minutes while the volunteers took tests measuring memory, intelligence, attention and finger dexterity.

Glucose ingestion substantially enhanced scores on two tests of long-term verbal memory. On one test, participants listened to an audiotaped narrative passage and recounted the passage 5 minutes and 40 minutes later. On the other test, volunteers attempted to repeat a list of 12 words. Those who failed were given up to 11 more chances, and after each try an experimenter repeated those words they forgot.

The findings support a report published last year by the University of Virginia team noting glucose-stimulated verbal memory improvement among 11 elderly people, observes coauthor Paul E. Gold. However, he says, the ways in which glucose sparks memory remain unclear. Animal studies indicate that blood glucose increases improve the ability of cholinergic brain cells to transmit acetylcholine. This chemical messenger, involved in memory, may become less available as people age, Gold says.

Frequent glucose consumption presents dangers to the elderly — such as increasing the risk of diabetes — that discourage its use as a memory booster, Gold asserts. In future studies, the scientists plan to monitor blood glucose levels of elderly volunteers throughout the day, target specific glucose deficits and identify substances that reset glucose levels.

Revising short-term suicide risks

Mental health workers treating people with severe depression or manic depression consider three factors as key predictors of an impending suicide — hopelessness, thoughts of suicide and a history of suicide attempts. But much better and often ignored signs of immediate suicide risk exist, maintain investigators at Rush-Presbyterian-St. Luke's Medical Center in Chicago.

Psychiatrist Jan Fawcett and his colleagues monitored 954 individuals taking part in a national study of depression and manic depression that began in 1978. Anxiety-related symptoms, such as panic attacks, excessive worrying, severe insomnia and lack of concentration, were closely linked to the 13 suicides occurring within one year of their initial clinical interviews. Hopelessness, suicidal thoughts and prior suicide attempts were associated only with the 19 suicides that occurred more than one year after initial interviews.

Rapid treatment of anxiety symptoms may substantially decrease suicide rates among those suffering from depression and manic depression, the researchers conclude in the September *AMERICAN JOURNAL OF PSYCHIATRY*.

Kathy A. Fackelmann reports from Baltimore at a meeting of the American Heart Association council on high blood pressure

Magnesium eases diabetic blood pressure

A daily dose of magnesium may help lower blood pressure in hypertensive people with Type II diabetes, a glucose-processing disorder that generally strikes after age 40 and is usually controlled without insulin.

Samuel A. Malayan at the University of Southern California in Los Angeles and his colleagues report that compared with healthy nondiabetics, hypertensive people with Type II diabetes had lower magnesium levels in their red blood cells. A number of recent studies have indicated that a magnesium deficiency may contribute to hypertension (SN: 6/4/88, p.356). Complementary findings in other research suggest that a magnesium-enriched diet may lower high blood pressure by relaxing constricted blood vessels.

In the new study, the California team gave seven hypertensive diabetics 260 milligrams of magnesium chloride per day. After six weeks, blood pressure levels among these volunteers dropped from a starting average of 157/96 millimeters of mercury (mm Hg) to just 128/77 mm Hg. Physicians consider a reading of less than 140/90 normal and a sign of healthy vessels.

Malayan says the study findings suggest some Type II diabetics may control their high blood pressure with magnesium pills or perhaps a diet that includes green, leafy vegetables and other foods rich in this mineral. But despite the encouraging results, his team stops short of advising all Type II diabetics with hypertension to pop magnesium tablets.

Jerry Nadler at the City of Hope Medical Center in Duarte, Calif., a coauthor of the new study, cautions that people with diabetes can experience kidney failure, resulting in dangerously high blood levels of magnesium. He therefore recommends that diabetics consult their physicians before taking any magnesium supplements.

The scientists say their results apply to Type II diabetes only. They don't know whether people with insulin-dependent (Type I) diabetes, which strikes in childhood, would reap the same vascular relief seen in the Type II diabetics taking magnesium supplements.

Weight loss curbs drug-linked impotence

A significant number of male hypertensives who take diuretics, or "water pills," to control their high blood pressure find the drugs carry an unpleasant and psychologically debilitating side effect — impotence. A new report now demonstrates that moderate weight loss may reverse this drug-induced sexual problem.

Herbert G. Langford and his colleagues at the University of Mississippi in Jackson found that 13 (29 percent) of 45 overweight men had difficulty maintaining an erection after starting diuretic therapy for their hypertension with 25 milligrams of chlorthalidone (Hygroton) daily, a finding that fits in with past reports. A second group of 35 hypertensive men followed a treatment regimen consisting of the same drug therapy in addition to an organized weight-loss program. After six months, the second group had lost an average of 11 pounds and reported a surprising benefit: Just three (10 percent) experienced erectile difficulty — about the same rate seen in a control group of hypertensive volunteers receiving placebo pills and no dietary advice.

Scientists suspect chlorthalidone and other so-called thiazide diuretics may cause sexual problems by altering the body's level of the male hormone testosterone. But the exact mechanism by which weight loss improves sexual functioning remains unknown, Langford says.

While this study demonstrates a short-term benefit of losing weight, the scientists don't know whether the trimmed-down volunteers will continue to report fewer problems with sexual functioning in the future, Langford adds.