Biomedicine

Diabetes II: Curbing the quiet killer

In an attempt to identify the estimated five million U.S. residents who have diabetes and don't realize it, the American Diabetes Association has launched a $4 million, two-year campaign of seminars to educate physicians in diagnosis and treatment of Type II, or "non-insulin dependent," diabetes. Type II patients, who constitute 90 percent of all diabetics, can usually control their illness through diet and exercise, without the use of drugs. But motivating the patients to stick to a diet has been a problem says Jim Field, chairman of the National Diabetes Advisory Board. Overweight adults with blurred or unusual vision, tingling in the limbs or frequent skin infections, who tire easily at normal tasks and experience a slow healing of cuts or bruises should see their physician, he says, for a diabetes blood test.

Early symptoms are subtle and few, but the physical complications of Type II diabetes can be devastating. "Heart attacks are seven times higher in women with diabetes than in women without the disease. Blindness, stroke, kidney failure and gangrene that necessitates limb amputation are all serious, *preventable* complications," Field says, "but even most physicians don't realize the severity of the problem."

Viral fugitive captured in monkey AIDS

Physicians are still searching for an infectious culprit that triggers acquired immunodeficiency syndrome (AIDS) in humans, but sleuths studying a similar disease in monkeys are busy fingerprinting their chief suspect: a virus (SN: 1/14/84, p. 21). Researchers in Massachusetts and California have independently identified what seems to be the same organism, capable of stripping away a victim's immune system and leaving the monkey vulnerable to death-inducing infection.

The suspect is a type D retrovirus, similar but not identical to an organism isolated from a rhesus monkey breast tumor in the 1960s. Studies published by a joint National Institutes of Health/University of California at Davis team in the March 9 SCIENCE, and the New England Regional Primate Center in the same journal on February 10 confirm a viral role in the monkey illness.

The next step is to clone the suspect, says UC Davis' Don Maul, and infect various types of tissue in test tubes, in an attempt to discover exactly how the virus damages immune cells. "Our findings set a precedent for researchers in the human field," Maul told SCIENCE NEWS. "Nature works in parallels, and it's certainly possible that similar mechanisms are at work in AIDS."

Disneyland for medics in the works

Plans for a $600 million health-care exposition center — what its founders call "the largest permanent health-care exhibition and learning center" — were announced late last month via a three-continent teleconference. The Ft. Lauderdale, Fla., center, called EcuMed, is intended to house courses and small conferences for health-care professionals, and will feature meeting rooms, an exhibition hall where manufacturers can demonstrate their wares (a working CT scanner is planned), museum, sophisticated telecommunications, classrooms, hotels, swimming pools, tennis courts and golf facilities. The developers expect subsequent construction, including expansion of exhibit space to 4 million square feet, to bring total investment to $2 billion.

The business venture is being financed by a realty company in partnership with an insurance company. The board of governors sports a stellar group of health-care professionals, including two former secretaries of the old Health, Education and Welfare Department and American Medical Association, American Hospital Association and American Nurses' Association officials.

Groundbreaking is scheduled for this fall, with completion planned three years later. The organizers expect 600,000 visitors a year to the facility.

Biology

The last duskies in Florida

Fred Graham/Walt Disney Productions

Hope is running out for the survival of the dusky seaside sparrow species. The four birds in captivity at Walt Disney World in Lake Buena Vista, Fla., are all male. No female has been seen since 1975, and no males have been seen in the wild since 1980. In an attempt to save at least some of the dusky sparrow's characteristics, Disney biologists plan to attempt to breed the four males with seaside sparrows of other species. These experiments could eventually produce a hybrid sparrow with most of the dusky's genes. The black and white canary-size dusky, weighing less than an ounce, spent most of its time darting about the ground in its limited floodplain and tidal marsh range. The dusky's habitat was destroyed first by mosquito abatement measures, then by human population growth associated with the space program and a highway built to facilitate access to Walt Disney World, and finally by range fires. The dusky seaside sparrow is expected to be the first vertebrate known to become extinct since the federal Endangered Species Act was passed in 1973.

Three-in-one biotechnology center

It's academia, it's industry, it's federal, state and local government, all rolled into one at a biotechnology research center to be established by the University of Maryland, the National Bureau of Standards (NBS) and Montgomery County, Md. "It will bring together a mix of people and facilities to create a unique national resource in this economically important field," John S. Toll, president of the university, announced recently. Private companies are expected to join the center either on a continuing basis or project-by-project. The center will begin operation using NBS and University of Maryland facilities, until a new site is ready at the Shady Grove (Md.) Life Sciences Center. The organization will be managed by a board that includes representatives of industry. "We want to make sure that the center's management is flexible so that it can accommodate the special needs of those in this field, and so that this can become a world-class research center," says Donald R. Johnson of NBS.

New roles for an elusive amino acid

A rare and unstable amino acid has been isolated from proteins of bacteria and human atherosclerotic plaque. Sensitive analytical techniques allowed Tad H. Koch of the University of Colorado at Boulder and colleagues to measure aminomalonic acid (Ama). They speculate in the February PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES (No. 3), "The presence of Ama has important biological implications because the malonic acid moiety potentially imparts calcium binding properties to protein." Calcium binding, they say, appears to be an initial event in the development of atherosclerosis.

Anchovy news

Ten new varieties of anchovies have been discovered in Brazilian tributaries to the Amazon River. Michael Goulding of the World Wildlife Fund believes his Amazon explorations will turn up between 200 and 500 new fish species. The newly discovered anchovies double the number of known freshwater anchovy species. But, the fund says, this discovery should not give pizza lovers cause for celebration. The ingredient used in pizza and other recipes is the salt water anchovy found off the coast of Peru.