

From the NIH

Many obese youth have condition that precedes type 2 diabetes

Many obese children and adolescents have impaired glucose tolerance, a condition that often appears in a patient before type 2 diabetes is diagnosed, according to researchers at the National Institute of Child Health and Human Development and the National Center for Research Resources, both agencies of the National Institutes of Health. The findings suggest that many obese children are at increased risk of having type 2 diabetes and further suggest that intensive efforts to reduce obesity in youth who have impaired glucose tolerance will help prevent their having type 2 diabetes.

Once found only in adults, type 2 diabetes has been rising steadily in children, especially African American, Native American, and Hispanic children. Results of studies that included populations in some American cities indicate that the percentage of children with newly-diagnosed type 2 diabetes has increased from less than 5% before 1994 to 30% to 50% in subsequent years.

Scientists at Yale University of Medicine, New Haven, Conn, initiated the study to determine if obese children and teenagers have impaired glucose tolerance, a known risk factor for type 2 diabetes in adults. Researchers found that children with impaired glucose tolerance frequently had insulin resistance, a condition that usually precedes type 2 diabetes in adults.

Researchers tested for impaired glucose tolerance in 55 obese children between 4 and 10 years of age and 112 obese adolescents between 11 and 18 years of age. In all, 25% of the children and 21% of the adolescents had impaired glucose tolerance. Researchers also found that four adolescents had silent type 2 diabetes, a disease that has no symptoms.

Type 2 diabetes is closely linked to obesity, a sedentary lifestyle, and a family history of diabetes. The longer a person has diabetes, the greater the chances of having the disabling, life-threatening complications of diabetes; therefore, there is a need to find better ways to prevent and treat the disease in children.

The report can be found in the March 14, 2002, issue of the *New England Journal of Medicine*.

Study questions dust-mite exposure link to asthma

The greater a person's exposure to dust mites, the less likely that person is to have asthma, according to results of a study by scientists at the National Institute of Environmental Health Sciences, National Institutes of Health.

Scientists compared the dust-mite levels and the asthma rates of residents in 831 homes. Bedding from the households was examined for the presence of two key dust-mite proteins, Der f 1 and Der p 1.

Results indicate that 18.5% of homes with bedding containing the highest levels of mite allergens had at least one resident with asthma, while 27.2% of homes with moderate levels of mite allergens had one resident with asthma, and 29% of homes with the lowest levels of mite allergens had one resident with asthma.

Evidence further links lung cancer, heart disease deaths and soot, dust

Years of exposure to high concentrations of tiny particles of soot and dust from cars, power plants, and factories in some metropolitan areas of the United States significantly increase residents' risk of dying from lung cancer and heart disease, according to researchers at the National Institute of Environmental Health, National Institutes of Health. Researchers at Brigham Young University, Provo, Utah; the University of Ottawa, Ontario; the American Cancer Society; and New York University School of Medicine, Tuxedo, NY, found that the risk of dying from lung cancer, as well as heart disease, for long-time residents of the most polluted American cities is comparable to the risk associated with nonsmokers being exposed to secondhand smoke over a long period. Previous studies have linked soot in the air to many respiratory ailments and death.

Researchers assessed the impact of particles smaller than 2.5 μm (called fine particulate matter) on 500,000 residents of cities

in the United States who were followed up from 1982 to 1998 as part of an ongoing cancer study. The data were linked to air-pollution levels for US cities using advanced statistical modeling to control individual risk factors.

Researchers calculated that the number of deaths from lung cancer increase 8% for every 10 μg of fine particulate matter per cubic meter. Larger particles and gaseous pollutants were generally not associated with a higher number of deaths.

As the health dangers associated with tiny particles of soot were being discovered in 1997, the Environmental Protection Agency (EPA) issued new regulations tightening its standards to cover particles smaller than 2.5 μm . The EPA set annual average limits on fine particulate matter to 15 μg per cubic meter in 1997; however, many American cities currently exceed that standard (eg, in 1999 and 2000, the annual average was 16 $\mu\text{g}/\text{m}^3$ in New York City, 20 $\mu\text{g}/\text{m}^3$ in Los Angeles, and 18 $\mu\text{g}/\text{m}^3$ in Chicago).

The report can be found in the March 6, 2002, issue of *JAMA*.

Scientists unravel secrets of infectious childhood heart disease

Researchers have found clues as to why the bacterium, group A streptococcus (GAS), sometimes causes acute rheumatic fever, the most common infectious cause of childhood heart disease in the world. As GAS bacteria are relatively common, causing a range of other diseases, scientists at the National Institute of Allergy and Infectious Diseases, National Institutes of Health, questioned why different GAS strains invade different parts of the body. In addition, scientists have not known if different rheumatic fever outbreaks are caused by genetically similar bacteria or if different strains can emerge to cause the disease.

Scientists isolated GAS bacteria from a patient with rheumatic fever to determine its genetic blueprint and compared the blueprint to the deoxyribonucleic acid (DNA) sequence of GAS strains that do not cause rheumatic fever.

Researchers discovered that although the two bacterial isolates contained many

of the same genes, the strain known to cause rheumatic fever, M18, has additional genes that appear to encode novel bacterial toxins. In addition, most regions of variation between the two strains appear to come from phages, viruses that can invade bacteria and insert large numbers of genes into the bacterium's DNA. The presence of "swappable" toxin genes provides the mechanism for bacteria to exchange genes among themselves.

The findings help to identify key features involved in the spread of rheumatic fever and establish potential targets for new drugs and diagnostic tests.

In the United States, rheumatic fever has appeared in several localized outbreaks. In 1999, the infection and subsequent heart damage were responsible for 3600 deaths.

From the FDA

FDA grants priority review for infliximab for long-term treatment of patients with Crohn's disease

Infliximab (Remicade) has been designated for priority review by the Food and Drug Administration as a monotherapy for the treatment and maintenance of remission in patients with moderate to severe active Crohn's disease (CD). Infliximab is currently the only approved drug for the treatment of rheumatoid arthritis (RA) and the short-term treatment of patients with moderate to severe active CD who fail to respond to conventional therapy.

The study involved 573 patients with moderate to severe active CD in North America, Europe, and Israel. In the United States, Crohn's disease affects more than a half million people.

Dietary supplements containing kava may be associated with severe liver injury

The Food and Drug Administration (FDA) is advising consumers of the potential risk of severe liver injury associated with using dietary supplements containing the herbal ingredient kava (*Piper methysticum*). Supplements containing kava are promoted for relaxation, sleeplessness, menopause symptoms, and other uses. The FDA has not

made a determination about the ability of kava dietary supplements to provide such benefits.

Liver-related risks associated with kava have prompted regulatory agencies in other countries, including Germany, Switzerland, France, Canada, and the United Kingdom, to take various degrees of action from warnings to consumers to removing kava-containing products from the marketplace.

Kava-containing products have been associated with liver-related injuries that include hepatitis, cirrhosis, and liver failure in more than 25 reports of adverse events in other countries, with four patients requiring liver transplantations. In the United States, the FDA has received one report of a previously healthy young female who required liver transplantation after using kava-containing products, as well as several reports of liver-related injuries.

Researchers advise persons with liver disease, liver problems, or those taking drug products that can affect the liver to consult with a physician before using kava-containing supplements.

The FDA urges healthcare professionals to report cases of liver injury and other injuries that may be related to use of kava-containing dietary supplements to the FDA's Medwatch program at <http://www.fda.gov/medwatch>, or by calling 800-332-1088. The report, which lists more than 20 commonly used names for kava on supplement labeling, can be found at <http://cfsan.fda.gov/> under Dietary Supplements.

From the CDC

Life span of Americans with Down syndrome doubled since 1980s

Study results of death certificates of 17,897 people in the United States with Down syndrome (DS) indicate that median age at death has increased from 25 years in 1983 to 49 years in 1997, though the increase still does not bring the age up to the average age of death for other Americans, which rose from 73 years to 76 years.

Scientists report that the median age of death was significantly lower in African Americans and people of other races with DS than in white people with DS.

Study results also indicate that malig-

nant neoplasms other than leukemia and testicular cancer were reported 93% less often for people with DS than for people in the control group.

The report can be found in the March 23, 2002, issue of *The Lancet*.

From HHS

Report calls for physicians to provide greater assistance to their patients who smoke

A report that summarizes the US Department of Health and Human Services evidence-based guideline for smoking cessation is a call to action for physicians, particularly chest physicians, to provide greater intervention to their patients who smoke by providing evidence-based tobacco dependence counseling and medications. Researchers identify tobacco dependence as a chronic and potentially life-threatening disease that is subject to relapse, but one which can be put into long-term remission with help from physicians.

The report, "Treating Tobacco Use and Dependence," calls on chest physicians in particular in this new approach to treating tobacco dependence, as smoking-related diseases, such as bronchitis, asthma, chronic obstructive coronary disease, angina, coronary artery disease, lung cancer, and myocardial infarction bring patients in a unique position to lead the charge in treating tobacco dependence.

The report states that 35% of smokers had seriously attempted to quit smoking during the past year and 80% attempted to quit smoking sometime in their past.

The report can be found in the March 2002 issue of *Chest*. ♦