

Gene discovery may aid Marfan's diagnosis

Three groups of geneticists have identified the gene for Marfan's syndrome, a potentially fatal disorder thought to have afflicted Abraham Lincoln. The discovery should lead to a diagnostic test for the defect, which affects one in every 10,000 people worldwide.

At present, physicians can detect Marfan's syndrome only in people with the most extreme form of the disease. Such patients are unusually tall and loose-jointed, have long, spider-like fingers, and may suffer from dislocated eye lenses. Less striking forms of Marfan's may go undiagnosed until the major blood vessel leading from the victim's heart bursts during strenuous physical activity, causing sudden death.

As early as the 1950s, physicians surmised that Marfan's was a genetic disease involving connective tissue because it affects bones, tendons and the cartilage that shores up major blood vessels. Last year, a group led by the late David W. Hollister at the University of Nebraska Medical Center in Omaha attributed Marfan's to a defect in fibrillin, the protein that provides the structural scaffolding between cells (SN: 8/4/90, p.79.)

Researchers deny violations

Three AIDS researchers at the National Institutes of Health have denied charges by NIH that they sidestepped the agency's ethics regulations by collaborating with a French scientist whose studies did not follow NIH guidelines on the use of human subjects. The studies, conducted in the mid-1980s by Daniel Zagury, involved AIDS vaccine trials in France and Zaire (SN: 7/20/91, p.37).

In separate letters sent to NIH Director Bernadine Healy during the first week of July, Takis Papas of the National Cancer Institute (NCI) and Bernard Moss of the National Institute of Allergy and Infectious Diseases said they had provided vaccine materials to Zagury only for animal experiments.

The third scientist, Robert C. Gallo of NCI, told SCIENCE NEWS that his involvement with Zagury was "conceptual" and that he had been unaware of Zagury's plans to conduct human tests using materials prepared with Gallo's consultation.

All three federal researchers were criticized in a preliminary report released last week by the NIH office that oversees the safety of agency research. The report notes that NIH regulations on human trials extend to collaborations with foreign researchers, and it recommends that NIH set up an Office of Human Subjects Research to prevent further infractions. □

In the July 25 NATURE, U.S., Japanese and French members of Hollister's original team report that they have linked Marfan's syndrome to a fibrillin gene on chromosome 15. The researchers, led by Francesco Ramirez of the Mount Sinai School of Medicine in New York City, also report finding a gene on chromosome 5 that codes for a different version of fibrillin, which may cause a related disorder of the fingers called congenital contractural arachnodactyly.

In the same issue of NATURE, two other papers further characterize chromosome 15's fibrillin gene. At Shriners Hospital for Crippled Children in Portland, Ore., Lynn

Y. Sakai and her co-workers deciphered 70 percent of the DNA sequences that make up the gene. Sakai, now at Duke University in Durham, N.C., and another group led by Harry C. Dietz at Johns Hopkins University in Baltimore, also describe mutations in the fibrillin genes of two people who developed Marfan's spontaneously without inheriting defective genes.

These discoveries "should permit the design of definitive diagnostic tests [for Marfan's]," writes Johns Hopkins geneticist Victor A. McKusick in an accompanying editorial. He says the findings should also aid a project analyzing Lincoln's remains to determine whether the President suffered from the disease (SN: 5/25/91, p.335).
— C. Ezzell

A heartening finding for women on aspirin

Women who regularly take aspirin may reduce their risk of suffering a first heart attack, according to a preliminary study. The finding represents the first demonstration of aspirin's ability to ward off heart attacks in women. At the same time, two other new reports suggest that women with coronary artery disease receive less aggressive medical treatment than do men.

The cardiac battle of the sexes started back in 1988 with a study showing that middle-aged male doctors nearly halved their chances of a first heart attack by taking an aspirin every other day (SN: 1/30/88, p.68). Because the study did not include women, it offered no proof of the drug's potential for reducing women's heart attacks. Indeed, several other studies suggested that women taking aspirin gained no preventive edge.

Now, a report in the July 24/31 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION indicates that women may reap aspirin's cardiac benefits after all. JoAnn E. Manson and her colleagues at Harvard Medical School in Boston studied 87,678 female nurses living in 11 states. In 1980, 1982 and 1984, the volunteers answered questions about their medical history and lifestyle, including aspirin use. At the outset, participants showed no evidence of coronary artery disease and ranged from 34 to 65 years of age. The researchers tracked all cases of heart attack, stroke and other cardiovascular problems from 1980 to 1986.

Manson and her co-workers found that women aged 50 and older who took one to six adult-sized aspirin per week showed a "significant" (32 percent) reduction in heart attack risk compared with women who reported no aspirin use.

"This study raises the possibility that aspirin might benefit women," says coauthor Charles H. Hennekens. However, he and his colleagues acknowledge inherent weaknesses in their observational study. For example, nurses who

reported aspirin use may have also practiced other heart-healthy habits that lowered their risk of cardiovascular disease. Such unknowns throw uncertainty into the findings, notes Lawrence M. Friedman of the National Heart, Lung, and Blood Institute in Bethesda, Md.

Manson advises women to see their physicians before considering a regular regimen of aspirin. "We certainly don't want people to go out and start taking aspirin on their own," she says.

While the aspirin study helps narrow the gender gap in cardiovascular research, two reports in the July 25 NEW ENGLAND JOURNAL OF MEDICINE indicate a discrepancy between the strategies used to treat men and women with heart problems.

Richard M. Steingart of the Winthrop-University Hospital in Mineola, N.Y., and his colleagues studied 1,842 men and 389 women who had suffered heart attacks. After controlling for age and severity of illness, the researchers found that the women were less likely than the men to receive bypass operations and other major, invasive procedures.

In a similar comparison, John Z. Ayanian and Arnold M. Epstein at Harvard Medical School discovered that women hospitalized for symptoms of coronary artery disease received fewer therapeutic procedures such as angioplasty, which widens clogged arteries and can reduce heart attack risk.

Taken together, these two studies "provide evidence that there is sex bias in the management of coronary heart disease," writes National Institutes of Health Director Bernadine Healy in an editorial accompanying the reports. "Decades of sex-exclusive research have reinforced the myth that coronary artery disease is a uniquely male affliction," she adds, noting that heart disease is the leading killer of both men and women in the United States (SN: 1/19/91, p.40).

— K.A. Fackelmann