

# PHYSIOLOGIC STRESS AND CALCIUM METABOLISM MAY EXPLAIN RACIAL DIFFERENCES IN HIGH BLOOD PRESSURE

SAN FRANCISCO—Scientists, reporting in two different studies, say they have discovered some reasons why blacks suffer from high blood pressure more often than whites. The findings, announced at the American Heart Association's annual meeting on high blood pressure research, may have important implications for treatment.

Blacks not only get high blood pressure more often than whites, they are five times more likely to die from its complications, kidney failure and heart disease.

Socioeconomic factors, lack of access to medical care and a tendency to retain salt or other dietary influences have been blamed for these higher rates. But researchers studying the biological basis of the disease may point the way to tailored treatments that will help close the racial gap in death rates.

David Calhoun, M.D., assistant professor of medicine at the University of Alabama at Birmingham, conducted a study of blacks and whites in which he and his colleagues measured the response of the sympathetic nervous system to physiologic stress.

The sympathetic nervous system controls many of the involuntary processes of the body, such as blood pressure and heart rate. It responds to danger by speeding the heart and raising blood pressure, creating the well-known "fight or flight" response.

To measure the stress response, Calhoun and his colleagues used the "cold stress" test, in which subjects place one hand in ice water for two to three minutes while scientists record the nerve impulses.

The researchers compared four groups of individuals: blacks with and without a family history of high blood pressure and whites with and without a family history of high blood pressure.

They found that the magnitude of the nerve activity to the cold stress was highest among blacks with a family history of high blood pressure. Blacks without a family history of high

blood pressure had stress responses that tended to be higher than the responses noted in both groups of white subjects.

"The study suggests that blacks have a stronger response to stress, which may contribute

to the higher prevalence of hypertension," concludes Calhoun. Treatment that blunts the stress may be expected to be effective among blacks, and if used early on, might forestall or even prevent the disease or its complications, he says.

One drug, called clonidine, acts on the sympathetic nervous system and is widely used in treating high blood pressure. Calhoun says using such drugs may be of special importance to blacks.

"Our results don't mean that blacks have greater response to other types of stress. We are presently evaluating other types, such as psychological stress, to see if there is a general tendency," he says.

In a second study on racial differences in blood pressure, New Jersey researchers suggest that accelerated calcium turnover inside cells might help explain the higher rate of high blood pressure in blacks.

Calcium is a major player in the control of muscle-cell contractility. When the level of calcium cells is high, cells constrict more. If it happens in the muscle cells in the blood vessel walls, the tightened muscle constricts blood vessels, raising blood pressure.

To determine if calcium levels in cells are higher in blacks, Masayuki Kimura, M.D., Ph.D., assistant professor of pediatrics at the University of Medicine and Dentistry of New Jersey-New Jersey Medical School in Newark measured calcium levels in platelets.

Platelets are disc-shaped blood components that assist in

the formation of clots. They have calcium-control mechanisms similar to that in muscle cells and are easier to obtain, so they can serve as good surrogates.

In addition to measuring the regulation of calcium in platelets, the researchers explored the contribution from the dense tubules, a major source of each platelet's calcium stock.

## HEALTH BRIEFS

### PARENTS: GET READY FOR THE SCHOOL YEAR

HOUSTON — Children are not the only ones who should gear up for a new school year. Parents also need to prepare.

"Parenting is tough as a new school year starts," said Dr. James Bray of Baylor College of Medicine in Houston.

Many parents do not set guidelines at home, so school rules may be difficult for children. By creating home rules, parents can help.

Bray also recommends not overly persuing children to achieve. Parents should respect individual strengths.

Other suggestions include:

- \* Getting involved in children's homework.
- \* Attending parent-teacher organization meetings and arranging private meetings with teachers to check on progress.
- \* Teaching children social skills to help them get along with schoolmates.
- \* Praising children for work well done.

### IT COULD BE A HARD FLU SEASON

HOUSTON — Most people in North America have not been exposed to an influenza strain expected to hit in 1993-94. The result could be a hard flu season.

A Beijing (H3N2), a variant of the flu that predominated in the 1991-92 season, did circulate on the East Coast late in the 1992-93 season. As a result, some people there have immunity.

"Because there is so little natural immunity elsewhere to this variant, people at high risk for flu complications should get vaccinated," said Dr. W. Paul Glezen of the influenza Research Center at Baylor College of Medicine in Houston.

The high-risk groups are the elderly; people with immune-system disorders and heat and lung disease, including asthma

and chronic bronchitis; people with diabetes, chronic kidney disease and chronic anemia, including sickle cell disease; and health-care workers and home-

care givers.

When the researchers compared the turnover of platelet calcium in 11 black males and 11 white males, they found striking differences.

"Calcium extruded from the dense tubules, as well as calcium entering and exiting the platelets, was significantly higher among blacks than whites," says study co-author Abraham Aviv,

M.D., director of the Hypertension Research Center at UMDNJ-New Jersey Medical School. The researchers say their findings help explain why blacks respond well to calcium channel blocker drugs, which

slow the entry of calcium into cells.

"It makes sense that these drugs will be more effective than

Glezen recommends that they get inoculated as soon as the vaccine is available, usually in September.

a number of other drugs in the treatment of high blood pressure in blacks," he says.

Aviv points out that accelerated calcium turnover is not the final cause of high blood pressure, but may be a predisposing factor, such as obesity or family history, that when added to other influences tips the balance.

"High blood pressure is a multigenic disease, and there is no doubt that the environment and genes play a role, but calcium turnover may be what exacerbates these conditions," the researchers conclude.

Calhoun's colleagues include Mithoka Mutinga, B.S.; Michael Wyss, Ph.D.; and Suzanne Oparil, M.D., all of the University of Alabama at Birmingham. Kimura's and Aviv's colleagues at UMDNJ-New Jersey Medical School include Jwa Hwa Cho, M.D., and Norman Lasker, M.D.

## SUNRISE HOSPITAL AND MEDICAL CENTER OFFERS FREE PROSTATE CANCER SCREENINGS

More than 132,000 men in the United States will be diagnosed with prostate cancer this year and an estimated 34,000 will die from the disease, according to the American Cancer Society. In fact, prostate cancer is the second leading cause of male cancer deaths.

The American Cancer Society also estimates that one in 11 caucasian men and one in nine African-American men will get prostate cancer during his lifetime. But with early detection and treatment, most cases are curable.

It is recommended that men over 50, or men with a family history of prostate cancer, be tested annually. In recognition of Prostate Cancer Awareness Week, Sunrise Hospital and Medical Center will offer free prostate cancer screenings Tues-

day, Sept. 28 and Wednesday, Sept. 29 from 9 a.m. to noon and 1 p.m. to 4 p.m. Board certified urologists will perform the screenings.

Sunrise Hospital and Medical Center was chosen as one of 2,000 screening centers nationwide by the American Cancer Society to provide the Prostate Specific Antigen (PSA) test, a more accurate means of detecting prostate cancer. The PSA test measures the blood vessel of a protein produced by prostate cells. The first 250 men will have the PSA test and a digital exam.

Appointments are not required for the prostate screenings. Interested individuals should check in at the information desk in the Sunrise Hospital Diagnostic Center, 3006 S. Maryland Parkway, no earlier than 9 a.m. either day.

If You're Dabbling In Drugs...  
You Could Be Dabbling  
With Your Life.



Skin popping, on occasion, seems a lot safer than mainlining. Right? You ask yourself: What can happen? Well, a lot can happen. That's because there's a new game in town. It's called AIDS. So far there are no winners. If you share needles, you're at risk. All it takes is one exposure to the AIDS virus and you've just dabbled your life away.

For more information about AIDS, call 1-800-842-AIDS. Nevada AIDS Hotline



This is a message from the U.S. Centers for Disease Control.

## VOLUNTEER PROGRAM ACCEPTING APPLICATIONS

The Nathan Adelson Hospice is now accepting applications for its E.A.S.E. (Early Assistance Support in Emergencies) volunteer program.

Volunteers are needed for the Hospice's E.A.S.E. (Early Assistance and Support in Emergencies) program. E.A.S.E. volunteers provide emotional support to families and friends at the scene of a sudden death. Training sessions will be held on Saturday's from 9 a.m. to 4 p.m., October 2nd through October 30th. For applications, or for more information, please call Dee King or Gary Gardia at 733-0320.