

The Baltimore
SUN
 April 21, 2008



T BAD
 WIN >>>> SPORTS

MARIO'S NEW MOVES

BALTIMORE NATIVE SLOWS IT DOWN TONIGHT ON 'DANCING WITH THE STARS' >>>> TODAY

opened an unexpected
 the American church



Trade Center site in New York, pleading with God to bring "peace to our violent world."

**abuses,
 s healing**



BALTIMORE TO N.Y.

**O'Brien
 celebrates
 with pope**

Archdiocese marks
 200-year anniversary

BY MATTHEW HAY BROWN
 [SUN REPORTER]

**HEART
 DEFENSE
 IS IN THE
 GENES**

Variation common in
 blacks is as effective
 as drugs, study shows

BY DENNIS O'BRIEN
 [SUN REPORTER]

A genetic variation common in African-Americans naturally protects heart failure patients as effectively as popular heart medications, researchers reported today.

Scientists at the University of Maryland and other institutions tracked more than 300 heart failure patients for up to eight years and found that variations of a particular gene extended the lives of many of them for several years — just as if they were on beta blockers.

Researchers found the variation in 40 percent of blacks but only 2 percent of Caucasians. The finding could help explain why beta blockers seem to provide less benefit to African-Americans than other groups: Many of them already have nature working for them.

"It's a genetic mechanism that mimics the effects of the drugs," said Dr. Stephen Liggett, a co-author of the study and a professor of medicine and physiology at the University of Maryland School of Medicine.



Arrival of Pope Benedict XVI for a prayer service with relatives killed in New York City on Sept. 11, 2001.

IMAGES]

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...ope Benedict at
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A report commissioned by the U.S. Conference of Catholic Bishops counted more than 10,000 complaints of abuse involving more than 4,000 priests from 1950 to 2002. Dioceses in the United States have paid out more than \$2 billion in civil settlements; six have sought bankruptcy protection.

But beyond those numbers, involving as they do only a small percentage of the nation's 67 million Catholics, the scandal has shaken the faith of many in their church's hierarchy. Some analysts have linked it to the rate at which Catholics are leaving the church in the United States, which is greater than in [Please see POPE, 8A]

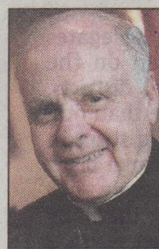
As a native of the Bronx, Edwin F. O'Brien once dreamed of taking the field at Yankee Stadium. Yesterday, he had his chance.

"I finally made it," Baltimore's archbishop said before joining Pope Benedict XVI yesterday at the fabled ballpark in New York. O'Brien was one of several American bishops and priests with the pontiff at the Mass commemorating the 200th anniversary of the Archdiocese of Baltimore.

"It underlines, as if we didn't know it, we're not living in our own little world," O'Brien said. "We're connected to a large communion of faithful."

The Mass was the third and last of Pope Benedict's first papal visit to the United States. Hours after a solemn visit to Ground Zero, he told a joyful crowd of more than 57,000 to use their God-given freedom wisely.

[Please see O'BRIEN, 8A]



O'BRIEN

The study, published today in the journal *Nature Medicine*, could eventually lead to genetic testing for heart failure patients, with the goal of tailoring therapies based on the results, experts say.

"This is cool stuff," Dr. David Kass, an expert on beta blockers at the Johns Hopkins School of Medicine, said of the report. "I've never seen anything like that."

The study showed how beta blockers affect long-term survival rates among heart failure patients with different genetic markers — adding to a growing body of evidence focused on the role genes play in how we respond to drugs.

"We're just at a point of understanding the genetics that put us at increased risk of common diseases and the differences in how we respond to a lot of the medications we use for them," said Dr. Maren T. Scheuner, a researcher at the Rand Corp. and the UCLA Center for Health Policy Research.

Black people suffer disproportionately from heart problems, scientists say. They have higher rates of hypertension and Type 2 diabetes and nearly twice the risk of developing heart failure as Caucasians. They're also at greater risk for high blood pressure, which can damage the heart if left untreated.

An estimated 750,000 African-Americans have been diagnosed with heart failure, and [Please see BLOCKERS, 9A]



ONLINE

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landers seek 100 mpg

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technology he designed and patented, in hopes that they will win him \$10 million.

The semiretired surgeon says it isn't the prospect of the money that inspires him to pursue the Progressive Automotive X Prize in a national competition designed to spur development of fuel-efficient cars. What he really wants is bragging rights.

"I'm very much excited about the possibilities," said Belloso, 73. "We're trying to do what's good for the Earth."

Belloso, who has tinkered with cars since his teenage years in the Philippines, is one of 64 contestants from 10 countries vying to

create a car priced for the mass market that gets 100 miles per gallon of gasoline — or the equivalent in alternative fuels.

"Our goal is to stimulate a wide range of new options, new technologies," said John Shore, a senior director of the Progressive Automotive X Prize, the nonprofit group organizing the contest.

The only other Maryland contestant so far is Lt. Cmdr. Jack Staub, a Navy pilot based at Patuxent River Naval Station. Staub's 11-member team is building a two-seat, diesel-electric vehicle that mates technology from the Honda Insight, a lightweight [Please see X PRIZE, 9A]



"We're trying to do what's good for the Earth," says Dr. Gregorio Belloso, who is building an energy-efficient car in hopes of winning the Progressive Automotive X Prize of \$10 million.

CHIAKI KAWAJIRI [SUN PHOTOGRAPHER]

Y 3B // OBITUARIES 4B // CLASSIFIED 7B // CROSSWORD 10B, 5C // TV 6C

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Baltimore
SPIRIT
CRUISES

Gene variation mimics heart drugs

BLOCKERS [From Page 1A]

the number is expected to increase to 900,000 by 2010, according to the federal Centers for Disease Control and Prevention.

The genetic underpinnings of response to heart failure medication is worth studying, Liggett said, because the illness is so insidious.

Heart failure affects more than 5 million Americans and usually develops when the heart is unable to pump enough blood to the body. As the heart tries to compensate by pumping faster, it usually grows larger and becomes less effective.

A heart attack, high blood pressure, abnormal heart valves and diabetes predispose someone to heart failure. But symptoms are often missed until the person begins to feel fatigued and has trouble breathing. By then, it is often too late, said Liggett.

One in five chronic heart failure patients is dead within a year of diagnosis. More than half of those diagnosed die within five years, and only one in four survives for 10 years.

When someone experiences heart failure, adrenalin binds to the heart cell's beta-adrenergic receptors and stimulates the heart to work harder.

Beta blockers are among the most commonly prescribed medications for heart failure. In many patients, they relieve the heart by blocking the response from the receptors. The two most commonly prescribed beta blockers are carvedilol and metoprolol, commonly sold under the trade names Coreg and Toprol, respectively.

"It's really protecting the heart from chronic overstimulation," Kass said.

But the effectiveness of beta blockers varies from one patient to the next. It can take as long as a year to determine if they're working, and side effects include dizzi-

ness, fatigue, fluid retention and erectile dysfunction, Liggett said.

"You could say that up to 50 percent of the patients on beta blockers have less than an optimal response," he said.

The study does not resolve why beta blockers work better in some people than others. But the results may lead to screening tests that narrow down which patients are right for beta blockers.

"We'll be able to say, 'Here's a group we could screen for,' and if you believe in it strongly enough, you could say you don't need to go on them," Kass said.

There are probably several other genetic variations that work this way, Liggett said, and he continues to search for them.

In their study, Liggett and a team of researchers compiled genetic profiles of 2,000 black and white volunteers in Cincinnati, Kansas City and Atlanta. Some volunteers had heart failure, while others were healthy.

The profiles showed a variation in GRK5, a gene known to curb receptor activity in heart failure patients. Most people had genes that produced a protein called glutamine in cells throughout their bodies, including heart cells. Some had

another protein called leucine.

The researchers created genetically altered mice and found those with leucine seemed to have a kind of natural beta blocker that reduced the impact of the adrenaline rush that normally prompts a stressed heart to work harder.

The researchers then tracked 375 black heart failure patients, some of whom were being treated with beta blockers by their physicians.

Among those with glutamine, the beta blockers were beneficial: At the end of an observation period that ran as long as eight years, 50 percent of those taking beta blockers were still alive, while only 20 percent of those not on beta blockers had survived, Liggett said.

But volunteers with leucine had the same 50 percent survival rates whether they took a beta blocker or not.

The study, funded by the National Heart, Lung, and Blood Institute, was conducted with help from researchers at the Washington University School of Medicine, the University of Cincinnati College of Medicine and the University of Michigan.

Liggett, director of Maryland's cardiopulmonary genomics program, hopes genetic tests will soon be available to help doctors determine which patients should take beta blockers. He eventually wants to develop a kind of scorecard, made up of genetic test results, that doctors could use when deciding whether beta blockers and other medications are appropriate.

"Our goal here is not to take away the physicians' judgment, but to give them some handles to work with, to know when to use a specific drug," he said.

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is on file with the Maryland Office of the Secretary of State.