WorldCare
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Genetic Findings Shed More Light on Rheumatoid Arthritis

From Brigham and Women's Hospital

Researchers from Brigham and Women's Hospital (BWH) and colleagues have uncovered specific locations on chromosomes – called loci – that are linked to rheumatoid arthritis (RA), a disease that attacks the joints and other organs. Variations in the genetic sequence at these locations imply a risk of developing RA. These findings appeared in a September issue of Nature Genetics.

A painful and sometimes disabling disease, RA affects about two million people in the United States. "Learning of new loci linked to RA can help researchers determine how variations there affect the immune system, as well as fuel research for new treatments," says Robert Plenge, MD, of the Division of Rheumatology, Immunology, and Allergy at BWH.

The discovery of a particular location, CD40 – a gene linked to immune and inflammatory responses – is important because CD40 has been a target for therapy in the past. By confirming that genetic variations at this location imply risk of developing RA, researchers have provided a basis for continuing investigation of CD40 to help determine therapy for the disease.

In addition to the six loci researchers found, seven other loci have previously been shown to imply risk for RA if variations occur. "This study supports the idea that there are many more locations on chromosomes that are linked with determining risk of developing this disease," Dr. Plenge says, adding that "Each discovery of a new locus is like finding another puzzle piece that helps us put together a better understanding of RA."

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Dear Reader,

This issue of Health Update covers the latest research at the WorldCare Consortium Hospitals in the fields of genetics and nutrition, and their role in predicting and warding off disease. We also hear some useful advice on identifying and dealing with seasonal disorders common in many parts of the world at this time of the year.

Sincerely,

Rebika Shaw,
Regional Director, Corporate Communications

HEALTH NEWS

Genetic Variation May Play Role in Early Heart Disease

From Duke University

Researchers at Duke University Medical Center have identified a variation in a gene that increases a person's chance of developing early coronary artery disease. For years, scientists have known that the devastating early-onset form of the disease was inherited, but knew little about the gene or genes responsible.

Svati Shah, MD, MHS, assistant professor in the Duke Heart Center and the Duke Center for Human Genetics, and Elizabeth Hauser, PhD, associate professor in the department of medicine and the Center for Human Genetics, earlier found evidence that a region on chromosome 7 was linked to coronary artery disease, or CAD. More recently, they focused on identifying the gene in this region that plays a role in early onset CAD and identified it as the neuropeptide Y (NPY) gene.

NPY is one of the most plentiful and important proteins in the body. It's a neurotransmitter related to the control of appetite and feeding behavior as well as the control of heart rate and coronary blood flow. They found that six related variations of the NPY gene showed evidence of transmission from generation to generation and an association across a population of early-onset CAD patients.

If you have the NPY gene variants "in one of two copies (from your mother and father), then you may develop coronary disease earlier," Dr. Hauser says. "Young patients are a vulnerable population on whom CAD has a significant long-term impact, but they are particularly hard to identify and therefore to initiate preventive therapies for," Dr. Shah says. "These and other genetic findings may help us in the future to identify these patients prior to development of CAD or their first heart attack."

Red Wine Components May Fight Alzheimer Damage

From UCLA

New research suggests that red wine may be beneficial not only for heart health but in warding off Alzheimer's disease.

Alzheimer's researchers at UCLA, in collaboration with the Mt. Sinai School of Medicine in New York, have discovered how red wine may reduce the occurrence of the disease. Neurology professor David Teplow, PhD, and colleagues showed

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in a November scientific journal how naturally occurring compounds in red wine called polyphenols block the formation of proteins that build toxic plaques that are thought to destroy brain cells. They also showed how polyphenols reduce the toxicity of existing plaques, thus reducing mental deterioration.

Polyphenols have more than 8,000 members, many of which are found in high concentrations in wine, tea, nuts, berries, cocoa, and various other plant foods. Past research has suggested that such polyphenols may inhibit or prevent the buildup of toxic fibers composed primarily of two proteins of anybodies beta called Aß40 and Aß42 that deposit in the brain and form the plaques that have long been associated with Alzheimer's.

In this work, researchers monitored how Aß40 and Aß42 proteins stuck to each other to form clumps that killed nerve cells in mice. They then treated the proteins with a polyphenol compound extracted from grape seeds. They discovered that polyphenols blocked the formation of the toxic clumps of Aß and also decreased toxicity when they were combined with Aß before it was added to brain cells.

"What we found is pretty straightforward," Dr. Teplow says. "If the Aß proteins can't assemble, toxic aggregates can't form, and thus there is no toxicity. Our work in the laboratory, and Mt. Sinai's Dr. Giulio Pasinetti's work in mice, suggest that administration of the compound to Alzheimer's patients might block the development of these toxic aggregates, prevent disease development and also (lessen) existing disease."

Seek Help When You're Feeling SAD

From Massachusetts General Hospital

It's normal to feel a little down after the start of the new year. The excitement of the holidays has faded. Cold temperatures and icy streets keep many people indoors. Weeks of winter still loom ahead. Having the "winter blues" is a normal reaction to the shorter days of winter.

But for some people, winter triggers much more serious feelings of depression and apathy. Doctors at Massachusetts General Hospital caution that seasonal affective disorder – or SAD – is a serious medical condition that needs a doctor's attention, especially if it impairs your daily activities.

"SAD is characterized by symptoms of depression, anxiety, loss of energy and sometimes oversleeping, social withdrawal, weight gain, and appetite changes that include increased cravings for carbohydrates," says David Mischoulon, MD, with the Mass General Depression Clinical and Research Program. "These symptoms generally appear during late fall or early winter and gradually worsen throughout the winter."

People should seek out a doctor's care if feelings of sadness stretch for many days, if they are unable to enjoy normal activities, and especially if they think about hurting themselves or simply find themselves thinking a lot about death. "Depression, including seasonal affective disorder, is a very treatable condition," Dr. Mischoulon says.

Many doctors suggest light therapy for patients with SAD. That may be as simple as spending more time outdoors or working near bright windows while at home or the office. Using special lamps, or light boxes, that mimic sunlight at regular intervals may also be prescribed by a doctor or mental health provider. Antidepressants and psychotherapy are other useful tools for SAD symptoms.

NEWS ON WORLDCARE

WorldCare and Consortium Hospitals exhibit at Arab Health 2009. The event, which is estimated to have attracted 60,000 visitors was held at the Dubai International Convention & Exhibition Centre from January 26th-29th, 2009. The WorldCare Pavilion, a custom-designed double level exhibit measuring 132 square meters, featured a joint presence with Consortium members Duke University Health System, Children's Hospital Boston, and Partners Healthcare System.

"Priceless Gift" Patient Perspective

"I will always be grateful for WorldCare providing me with the kind of peace of mind they did in my darkest hour. It was a priceless gift."

About WorldCare

The global health care community has trusted WorldCare since 1994, when it became the first company to offer physician-referred, patient-specific, second opinion e-consultations (telemedicine) for serious illnesses. WorldCare benefits patients around the world by providing access to top physicians, cutting edge medical practices and best medical advice through highly specialized electronic medical opinions from the best medical centers in the United States.

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