

## 14TH EUROPEAN CONGRESS ON OBESITY

ECO 2005 was held from June 1 to 4, in Athens, Greece.

### Obesity Health Care Costs on the Rise

Health care costs associated with obesity have increased to a greater extent than even those associated with smoking and alcoholism. Approximately 2% to 6% of health care costs in Europe and the United States are spent for the management of obesity and its complications.

Increased spending to address the problem has reached an average 12% over the past few years, varying by country. Lost work hours, lack of productivity and failure to fulfill everyday obligations are some potential consequences of obesity that impact health care costs. Consequences become even greater in cases where increased body weight is accompanied by illnesses such as cardiovascular disease (CVD) and diabetes.

A presentation from investigators at the University of Virginia School of Medicine showed that obese individuals aged between 55 and 64 years place the greatest burden on health care costs. Childhood obesity contributes to these costs. An obese child is highly likely to become an obese adult who has mental and physical problems, they said.

Greek adolescents between the ages of 13 and 17 years share the second highest rate of obesity with Italy, Cyprus and Ireland. England has the largest numbers of obese adolescents. An extensive prevention plan for childhood obesity should be implemented, given that the number of overweight children has increased over the last 20 years.

### Obese Children Become Obese Adults

Obesity starts at childbirth, and an infant born with a body weight >4 kg has a significant probability of remaining overweight or obese as a child.

The president of the congress organizing committee, Nicholas Katsilambros, MD, and others reported these findings during a news conference.

A series of studies and data were used to emphasize the risk of childhood obesity. In Greece, for example, presenters noted that the obesity index for children is rated among the highest in Europe.

Obesity is an "epidemic" affecting children and young people in Europe, they explained. Relative data given by the World Health Organization (WHO) reveal that one out of five children in Europe is overweight.

"Today's obese children are tomorrow's obese adults," they said, stressing the fact that at a percentage that varies from 40% to 60%, children overweight at the age of 7 years remained obese at 13 years.

Another study of in 2,514 Greek infants and toddlers was conducted by scientists from the Harokopio University of Athens. They evaluated the height, weight and body mass index (BMI). The average age of participants was 42.4 months old. The percentage of the overweight children increased with age. More specifically, 11.6% to 18.3% of boys and 12.5% to 17.8% of girls were found to be obese.

Experts concluded that the percentages of obese Greek toddlers are fairly high, and they exceed the averages of other countries.

### Drinking, Smoking May Effect Obesity

Data from a large epidemiological study have shown that everyday habits such as alcohol consumption and smoking may be responsible for obesity, especially in men.

The Hellenic Medical Association for Obesity conducted the study, and concluded that Greek men consume more alcohol than women. Additionally, alcohol consumption increased the risk of several diseases, and was associated with weight gain in men who had abdominal fat deposition.

A total of 8,090 men and 9,313 women, ranging in age from 20 to 75 years, were enrolled. This was the first national study that investigated the correlation between alcohol consumption and obesity. Twenty two percent of men and 54.6% of women said they never drink alcohol.

Approximately eight out of 10 men who do consume alcohol often drink during the week. They are at higher risk to become obese compared to those who do not drink.

Similar conclusions were presented on the smoking habits of Greeks. Male smokers have higher BMI than female smokers. A total of 17,403 adult men and women were included in the study, and 60.9% of men and 32.5% of women were smokers. Women smokers had lower BMIs compared to those who did not smoke.

## AMERICAN SOCIETY OF HYPERTENSION INC 20TH ANNUAL SCIENTIFIC MEETING

The 2005 meeting was held from May 14 to 18 in San Francisco.

### Medical Experts Redefine Hypertension

Experts in the treatment of hypertension announced a new definition of the condition, according to a news release from the American Society of Hypertension (ASH). The group expanded the definition of hypertension beyond the numbers obtained from a blood pressure reading, and instead urge that blood pressure be viewed as a part of a patient's overall risk for CVD.

The goal of this new definition is to improve the way physicians think about, diagnose and treat hypertension. Physicians are encouraged to think about the disease earlier than they commonly do now, according to the release. The goal is to reduce the risk of CVD linked to hypertension.

"For many years we have defined hypertension primarily by blood pressure levels, but in many cases elevated blood pressure is an effect, and not the cause of hypertension," said Thomas Giles, MD, president of ASH and professor of medicine at the Louisiana State University School of Medicine in New Orleans, in the release. "Our new definition incorporates the presence or absence of risk factors, early disease markers and target-organ damage, and more accurately represents the different physiological abnormalities in the cardiovascular system and other organs caused by hypertension."

The expanded classification criteria are intended to improve the identification of at-risk patients at an earlier point in the progression of hypertension. It focuses greater attention on a patient's overall, individual cardiovascular risk. Broader classification criteria should assist doctors in identifying patients who are at risk for cardiovascular problems, even when their blood pressure numbers are normal.

The new definition is based on assessment of a patient's global cardiovascular risk, including early markers of CVD and target-organ damage in addition to blood pressure levels. Cardiovascular risk factors include age, sex, lipid levels, BMI, smoking and family history of CVD. Examples of early markers of CVD are exaggerated blood pressure response to exercise or mental stress, microalbuminuria or an impaired ability to process blood sugar. Hypertensive target-organ damage can occur in the heart, arteries, kidneys and eyes. Assessment of the presence of such damage is important in determining overall cardiovascular risk.

## Erectile Dysfunction, Hypertension Linked

Men with high blood pressure may be at risk for erectile dysfunction (ED), according to two studies presented here. One of these studies also demonstrated that long-term sildenafil (Viagra, Pfizer) use was effective in improving aortic stiffness in patients suffering from the condition.

"It is estimated that at least 20 million American men have some degree of ED," said Michael Dumas, MD, from the fourth department of internal medicine, University of Athens, Greece. "Our research determined that for men with high blood pressure, the chances that they may be at risk for or have the devastating condition dramatically increases."

Dumas and colleagues studied 634 young and middle-aged men between the ages of 31 and 65 years. They excluded those with history of diabetes, heart disease, renal failure, liver and vascular disease, as these diseases have been associated with ED. Patients were evaluated for hypertension as well as medical history and were asked to complete a questionnaire that evaluated their ED according to the International Index of Erectile Function (IIEF).

"The IIEF is considered an accurate test for defining sexual dysfunction," said Dr. Dumas. "Using the IIEF's 'inform-then-probe' technique of questioning, we were able to clearly demonstrate a strong link between high blood pressure and ED."

Overall, 35.2% of the 358 patients had some degree of ED, and 9.2% of these patients had severe ED ( $P < .0001$ ). By contrast, only 14.1% of patients with normal blood pressure had some degree of the condition, and 1.5% of these patients had severe ED ( $P < .0001$ ).

Interestingly, ED was more frequent, even in subjects with high normal blood pressure. This is now included under the term prehypertension, suggesting that we must pay special attention to this population.

In a separate study, Charalambos Vlachopoulos, MD, from the First department of cardiology at Athens Medical School, Greece, examined sildenafil's long-term effect on aortic stiffness.

"Sildenafil is widely used for treatment of [ED], but the condition is so prevalent and closely linked to risk factors for coronary artery disease [CAD] that we wanted to explore the drug's potential beyond ED treatment," said Dr. Vlachopoulos. "We found that the drug has a beneficial long-term effect on aortic stiffness, a risk factor for isolated systolic hypertension, heart attack, stroke and coronary artery disease."

"We have seen in previous studies that patients suffering from ED and those suffering from [CAD] both share a common defect: endothelial dysfunction," Dr. Vlachopoulos continued. "Because sildenafil blocks the breakdown of vasodilating substances produced by the endothelium to aid sexual function, we hypothesized that the drug may help reduce aortic stiffness, which is partly dependent on endothelial function."

## THE ASSOCIATION FOR RESEARCH IN VISION AND OPHTHALMOLOGY

ARVO took place from May 1 to 5, in Ft Lauderdale, Fla.

### Ruboxistaurin Improves Vascular Leakage

Patients with diabetic macular edema (DME) and retinal vascular leakage may benefit from an orally-administered protein kinase C (PKC) beta inhibitor.

During a study that enrolled 41 patients, Michael Larsen, MD, and investigators found that ruboxistaurin (Eli Lilly and Company) reduced the incidence of retinal vascular leakage among the patients who previously experienced moderate or severe retinal vascular loss. Results indicated that patients with the most severe DME may have the most to gain by using the drug, Dr. Larsen said.

Study participants were randomized to receive either ruboxistaurin (42 eyes in 30 patients) or placebo (13 eyes in 11 patients) for 18 months. Patients in the drug group were again randomized to 4 mg/day, 16 mg/day, 32 mg/day or placebo, and all patients were examined at 3 months, 12 months and 18 months. Investigators used vitreous fluorometry when examining the leakage.

Dr. Larsen said that ruboxistaurin had a statistically significant interaction with permeability, and this occurred at all three dosings ( $P=.032$ ). The visual acuity recorded at baseline remained during the study, and the retinal vascular leakage was significantly reduced, he said.

### **Retinopathy May Indicate the Need for Better Care**

Diabetic patients displaying severe retinopathy may also be in danger of developing diabetic nephropathy, and they may also be more likely to die from ischemic heart disease.

According to a presentation by Ronald Klein, MD, health care for these patients should include renal and CVD care. If retinopathy can be used as a marker for morbidity and mortality, ophthalmologists and primary care physicians can work together to improve the care of these patients through early detection and treatment.

Using data from the Wisconsin Epidemiological Study of Diabetic Retinopathy (WESDR), Dr. Klein and his colleagues studied the association between severe retinopathy and disease morbidity and mortality. They found that uncontrolled hypertension, dyslipidemia, diabetic nephropathy and heart attack were associated with the condition among type 1 diabetic patients. In type 2 diabetic patients, severe retinopathy showed an association with nephropathy. Those patients – regardless of diabetes type – who had proliferative retinopathy at baseline were more likely to experience a fatal episode of ischemic heart disease compared to patients without retinopathy, Dr. Klein showed.

### **Implant is Possible Treatment for DME**

Fluocinolone acetonide intravitreal implants are Food and Drug Administration approved to treat chronic posterior uveitis, however this device may also produce

beneficial results in diabetic patients.

Two-year results of a multicenter study have shown that in diabetic patients, the implant caused a visual acuity improvement of three lines. Macular edema, retinal thickness and overall diabetic retinopathy progression also improved, said Andrew Pearson, MD.

One side effect, however, is that patients who used the implant were likely to develop cataract. Dr. Pearson said, though, visual improvements occurred before the cataract developed.

A total of 197 patients with DME were randomized, and 128 patients received the 0.59-mg implant. Remaining patients received the standard of care, and all patients, mean age 62 years, were followed for 4 years.

Examinations occurred at baseline, weeks 1, 3, 6, 12 and 24. After this time, patients were observed once every 3 months. The size of the edema was  $\geq 1$  disc area and visual acuity was between 20 and 68 letters. Dr. Pearson said that they used standards set by the ETDRS study to evaluate the patients.

Although the results at 12 months were not favorable, at 24 months, 30% of the implant patients improved their vision by three lines. This compared to only 9% of patients in the standard of care group. The difference was statistically significant. In addition, the severity of diabetic retinopathy decreased in the implant group.

“This is the most interesting thing in the whole study,” Dr. Pearson said. “Many more patients in the implant arm actually had an improvement in their severity score and much fewer patients had a worsening [compared to the standard of care group].” Only 10% of the implant group experienced a decreasing severity score. About 30% of the standard of care group decreased their score, he said. Again, more patients in the implant group underwent a positive change in macular edema resolution compared to the standard of care group (58% vs 30%, respectively).

There are several downsides to the implant, and they include the cost (\$20,000) and safety. Over half of the patients who received the implant tended to have an intraocular pressure (IOP)  $>30$ . Eighteen of these patients underwent surgery to correct IOP, and 6 had the implant removed.

“In some way, there is a statistically significant difference between the implant and the standard of care, favoring the implant with the three lines of visual improvement and resolution of macular edema, and for improvement in ... diabetic retinopathy severity,” Dr. Pearson concluded. ■