Peripheral Artery Disease Continues to Drive Escalating Health Care Costs

Even after initial procedures to clear blockages in leg arteries, additional hospitalizations and associated costs of peripheral artery disease (PAD) increase substantially as the condition progresses, according to new research reported in Circulation: Cardiovascular Quality and Outcomes, an American Heart Association journal.

University of Minnesota School of Public Health Professor of Epidemiology and Community Health Alan T. Hirsch, M.D., was senior author of the study. He also helped lead this international study on behalf of the Reduction of Atherothrombosis for Continued Health (REACH) Registry, which supplied the study data.

“Many cardiovascular researchers have proven the risk associated with peripheral artery disease, but this study spotlights the dual clinical and very high economic costs that arise from this condition,” Hirsch said. “These ongoing high costs mean that we can never be complacent in merely measuring the adverse outcomes associated with any particular disease. We clearly have to be committed to devising new treatments where none exist and in assuring that current treatments are being used for both maximum clinical benefit and best cost-effectiveness.”

“We are dealing with clinically and economically severe consequences of PAD, a disease which is truly preventable,” added Elizabeth Mahoney, Sc.D., the study’s lead author. “Our prior research estimated that vascular-related hospitalizations for PAD patients cost the United States $21 billion. Invasive treatment for PAD is costly, and a first invasive procedure becomes a risk factor for further procedures.”

PAD is a debilitating condition in which blood flow to the arteries in the legs is obstructed as a result of atherosclerosis, or the hardening and narrowing of the arterial walls. The condition affects an estimated 8 million Americans – a statistic researchers expect to increase. PAD is also associated with an elevated risk of major cardiovascular events, such as heart attack and stroke.

The prevalence of PAD is known from prior studies to increase from approximately 5 percent at age 50 to 10 percent by 65 and over 25 percent in patients 80 and older, researchers said.

Read more online: www.ahc.umn.edu/media/releases/PAD/index.htm
Meet the Council

The community advisory council plays a key role in the direction and focus of our program. In this issue, we interview Diana DuBois, M.P.H., M.I.A., executive director of WellShare International.

Q: What are the three most common examples of health disparities that you see in your work with youth?

A: Three of the more common examples of health disparities that we see in our work with youth include:

1. Limited access to exercise options, including culturally appropriate venues, fees to join gym memberships, transportation and cultural barrier for girls.

2. Access to nutritious foods: At the family level, due to large family sizes, a family often buys a large bag of rice or some other staple that will fill up a family, but they may not have enough money or food stamps to purchase more expensive fruits and vegetables throughout the month. Schools often do not only have healthy food choices.

3. Image in the community: Youth often complain that others view them as terrorists simply because of news reports that they read about Somali youth in the newspaper.

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The concept of an adaptation in metabolic rate in response to caloric restriction was proposed by the University of Minnesota’s Ancel Keys and colleagues. In their 1944 landmark investigation, 32 men were fed half of their required energy intake for 24 weeks. Participants reduced their total energy expenditure by over half in response. Reduced physical activity accounted for an estimated 58 percent of the decreased total energy expenditure and decreased resting metabolic rate accounted for 32 percent. This was a reasonable response, as Keys et al. explained, “in the sense that a wise man reduces his expenditure when his income is cut.” At the end of the study, and a rehabilitation period with relaxed dietary restrictions, the subjects had added an average of 10 pounds of fat to their pre-experiment levels.

While space does not permit a thorough discussion on similar research findings, it is important to note that other studies have shown similar adaptations to caloric restriction. These observations are of importance to understand the progressive resistance to weight loss in so many studies in which weight loss plateaus or reverses after a few months of caloric restriction. Furthermore, additional studies have shown that energy deprivation results in the loss of fat-free mass and altered protein metabolism that can detrimentally affect body composition. Fat-free mass consists of highly metabolically-active muscle and organs and low metabolic rate tissues, such as bone and connective tissue, and is the primary factor that determines the magnitude of resting metabolism. These examples are not provided as the final word on this topic; they are presented as contributors to the bigger picture that warrant further investigation.

In addition to caloric requirements, the composition of the diet can play a significant role in weight loss and maintenance efforts. As an alternative to a belief in the equality of all calories, research has documented important biological effects of various levels and types of proteins, fats, and carbohydrates; to leave these findings out of the equation would be a disservice to the topic. As Max Rubner states in his 1902 text *The Laws of Energy Conservation in Nutrition*, “The complicated mechanism of the body must be taken into consideration, and the ways it takes to reach its goals are not always the straight paths envisioned in our calculations.” A common clinical assumption is that an overweight patient intakes excessive calories. However, we have presented evidence that shows this may not always be the case.

In our final installment of this report we will discuss the marked differences in human response to dietary macronutrients that have significant impact on weight loss and maintenance, body composition, and biomarkers relative to disease risk. <<<

Please visit us online for references at: www.healthdisparities.umn.edu/newsletter/refs/swr
In early October, our program will hold a strategic planning retreat to develop our goals and objectives and areas of focus for the next 3 to 5 years. We held our first retreat in 2007, and it was vital in guiding the overall direction for the first 5 years of operation. Now, as we have reached a milestone of 5 years as a program, we’re looking to improve on these results for the future. As we prepare for this process, we also would love to hear from you. If you have any comments, suggestions or recommendations for us, please email them to phdr@umn.edu.

Finally, while it may seem like only a few weeks ago, we will soon hold our annual awards dinner for the 2011 pilot grants program. The planning committee is currently working on the details including date and location, so be on the lookout for an email from our listserv and posting on our program’s website. We’re looking forward to hearing from this year’s grantees and seeing the progress of previously funded research teams.

Addressing Rural Health Disparities

by Rachel Hardeman, M.P.H., School of Public Health and Eduardo Miguel Medina, Medical School, School of Public Health

Rural health disparities pose a significant challenge for our health care system. Lack of infrastructure, physician workforce, health insurance and recognition of the problem all contribute to the perpetuation of health disparities in rural communities.

According to the National Rural Health Association, residents in rural communities are more likely to suffer from chronic health conditions, experience greater cardiovascular mortality and report fair to poor health. In spite of a greater need for access to high quality health care, rural residents have fewer visits to health care providers and are less likely to receive recommended preventive services.

The recently published article, Quality of Care and Patient Outcomes in Critical Access Rural Hospitals, states that critical access rural hospitals (CAH) have higher rates of mortality for patients with heart attacks, congestive heart failure or pneumonia; worse measured processes of care; and fewer clinical capabilities compared to non-CAHs. Lack of access to both preventive and acute care services undoubtedly contributes to disparate outcomes in rural populations.

The lack of a physician workforce is a major impediment to improving rural access to health care. The University of Minnesota Medical School’s Rural Physician Associate Program aims to grow the rural physician workforce by allowing third-year medical students to live and train in rural communities. Two out of three program graduates elect to remain in rural practice after completing residency programs. Other efforts are underway at the University of Kansas, which was recently profiled in the New York Times for its program. A class of 8 students, predominantly from rural communities, is provided a free medical education in a rural setting with a special emphasis on training to care for a rural population.

Our health care system is only as good as its ability to care for the most vulnerable segments of our population. Unequal access to high quality care for rural communities, including Native American reservations and migrant workers, is evidence of a system in need of repair. Resolving health disparities in rural and urban communities alike means creating opportunities for medically underserved communities to develop their health care professionals from within. The future generations of physicians from poor, rural, immigrant and marginalized communities must be afforded an opportunity to provide high quality health care for the people they know and care for deeply.