Research Briefs

Statins for the Physically Fit: Do They Help or Hurt?

Statins may not be the best choice for physically active people, even short term. A study by researchers from VA North Texas Health Care System, University of Texas Southwestern Medical Center, and the Joint Base San Antonio found higher risks of diabetes and diabetic complications—"without any of the hoped-for cardiovascular benefits."

It's already established that statins can raise the risk of diabetes. But the researchers say there has been no primary prevention clinical trial to examine the overall effects of statins in physically active people. And in a previous study of TRICARE enrollees, they found that short-term statin therapy was not associated with reduced cardiovascular morbidity, but was associated with increased risk of adverse events. To follow up on those findings, they conducted another study to examine the short- and long-term effects of statins in active-duty military—chosen precisely because of their physical fitness.

The study, which involved 837 statin users and 2,488 nonusers, covered the years 2001 to 2011. The researchers captured data at three intervals: short-term outcomes in 2006; intermediate outcomes from 2006 to 2009; and long-term outcomes from 2006 to 2011.

Statin users had nearly twice the risk of diabetes, compared with nonusers (12.5% versus 5.8%, respectively). They also had a higher incidence of diabetes with complications (1.7% versus 0.7%, respectively). However, the overall incidence of major acute cardiovascular events was low at 2.58 events per 1,000 person-years in users and 2.63 events in nonusers. That small number meant the researchers could not show beneficial cardiovascular effects due to statins.

Their findings help fill a gap in the literature, the researchers say, and highlight the possibility that some healthy and active individuals may be receiving statins unnecessarily, putting them at risk for adverse events. Moreover, those risks persist long after statins are discontinued, the researchers note. Their study suggests that "we may need to adjust our approach and priorities to primary prevention."

Source: *Journal of Science and Medicine in Sport*, July 2017

An Action Plan for Better COPD Care

A "detailed patient-centered roadmap" for addressing the third leading cause of death in the U.S.—chronic obstructive pulmonary disease (COPD)—will provide a "cohesive tool" for health professionals, according to the National Heart, Lung, and Blood Institute (NHLBI). Together with federal and nonfederal partners, NHLBI released the first-ever COPD National Action Plan in May at the American Thoracic Society International Conference in Washington, D.C.

The plan was developed from comments shared at a "COPD Town Hall" by patients and their families, health care providers, academics, and industry representatives. It takes a unified approach, identifying the specific work doctors, educators, researchers, federal agencies, patients, advocates, and the biomedical industry can do to make a difference, NHLBI says.

An estimated 16 million Americans have COPD—and millions more may have it and not know it. But COPD is often preventable and highly treatable: Early diagnosis can lead to better outcomes. With that as the goal, the plan's developers aim to:

- Empower patients, families, and caregivers to recognize and reduce the burden of COPD
- Equip health care professionals to provide comprehensive care to people with COPD
- Collect, analyze, report, and disseminate COPD data
- Increase and sustain COPD research
- Turn COPD recommendations into research and public health care actions

Involving patients and families has been "invaluable," said James Kiley, PhD, director of NHLBI's division of lung diseases. "The different perspectives brought by those who live these issues every day contributed to making this a clear, coordinated way forward for all stakeholders."

Source: National Institutes of Health, May 2017

Relieving PTSD Symptoms May Cut MI, Stroke Risk

Women with severe posttraumatic stress disorder (PTSD) symptoms have a nearly 70% increase in the incidence of cardiovascular disease (CVD), according to a study by researchers from Harvard University, Columbia University, University of California–San Francisco, and Brigham and Women's Hospital.

The researchers analyzed data from 49,859 women in the Nurses' Health Study II. Over 20 years, there were 552 confirmed cases of myocardial infarction or stroke.

Women with six to seven symptoms of trauma and PTSD had the highest risk. Women with trauma but no PTSD symptoms had a 30% higher risk. When women who said illness was their worst trauma were excluded, the risk of CVD doubled among those with trauma and severe PTSD symptoms and increased by 88% in women with trauma and moderate PTSD symptoms.

Strikingly, the researchers also found that when the PTSD symptoms declined, so did the cardiovascular risk. The researchers note that CVD risk due to other well-known risk factors, such as smoking, increases with exposure duration and declines once the risk factor is eliminated. In this study, for every five additional years PTSD symptoms lasted, the odds of CVD were 9% higher.

A "more nuanced understanding" of the role of health behaviors could add insight into how PTSD influences the risk of CVD, the researchers say. They point to studies that have found a link between PTSD and cardiotoxic behaviors such as smoking, drinking, and diet. Physiological alterations that occur with PTSD symptoms may also play an important role, they suggest, such as changes in neuropeptide Y in response to stress, which might contribute to metabolic syndrome.

Citing "particularly intriguing" findings from a study that found symptoms eventually remitted in 44% of individuals with PTSD, the researchers say providing treatment shortly after PTSD symptoms begin could limit the risk of CVD and, potentially, other disease-related risk.

Source: *Psychological Medicine*, June 2017

Women Live Longer With Metastatic Breast Cancer

More and more women are living longer with distant metastatic breast cancer (MBC), according to a National Cancer Institute study. Between 1992 and 1994 and between 2005 and 2012, five-year relative survival among women who were diagnosed with MBC at ages 15 to 49 years doubled from 18% to 36%.

Researchers also found that relative survival time increased from 22.3 months to 38.7 months for women diagnosed between ages 15 and 49 years, and from 19.1 months to 29.7 months for those 50 to 64 years of age.

Moreover, a "small but meaningful" number of women are living years after an initial diagnosis of MBC, the study found. More than 11% of women diagnosed between 2000 and 2004 under the age of 64 years survived 10 years or more. Although nearly half of women with MBC have had it for two years or less, one-third have lived with it for five years or more.

The study findings "make clear that the majority of MBC patients, those who are diagnosed with nonmetastatic cancer but progress to distant disease, have never been properly documented," said Angela Mariotto, PhD, chief of the NCI Data Analytics Branch of the Division of Cancer Control and Population Sciences. By including women with recurrence, the study provides a more accurate number of women in the U.S. living with MBC, which can help with health care planning.

Source: National Institutes of Health, May 2017

Cancer Patients Have Higher BNP Levels

Natriuretic peptides have already been shown to be valuable biomarkers for guiding diagnosis and treatment for cardiovascular disease. Recently, they've also been reported to inhibit progression of several cancers. The link is likely to be inflammation—which is usually a precursor to malignant changes, say researchers from Tokushima University in Japan. To find out how reliable brain natriuretic peptide (BNP) and C-reactive protein (CRP) levels might be in cancer, the researchers retrospectively studied 2,923 patients at their hospital who had had BNP measured to rule out heart disease.

Of 234 patients included in the final analysis, 80 were diagnosed with cancer. (No patients with clinically evident heart failure and cardiac disease requiring medical treatment were included in the study.) Both the plasma BNP and serum CRP levels were significantly higher in the patients with cancer (66.4 pg/mL versus 44.0 pg/mL, and 0.99 mg/dL versus 0.18 mg/dL, respectively). There were no significant differences in the echocardiographic parameters.

In 28 cured patients with solid cancers who underwent a radical surgery, the plasma BNP levels dropped significantly from 70.7 pg/mL to 45.0 pg/mL. However, the levels did not change after surgery in seven relapsed or "insufficiently treated" patients with solid cancers. And although plasma BNP levels "tended to decrease" after chemotherapy in patients with hematologic cancers, plasma BNP levels did not change significantly in 13 patients.

BNP levels were significantly higher in the patients with stage IV cancer, compared with those who had stage I, II, or III disease. This might be accompanied by systemic inflammation, the researchers say.

As far as they know, no studies have shown that cancer cells generate BNP. Therefore, a higher plasma BNP level may reflect the elevated production from cardiomyocytes in association with inflammation in cancer patients.

Their findings suggest that it's a good idea to consider the effect of cancer on the BNP levels when using BNP as an indicator of heart failure. Asymptomatic cancer patients with higher BNP levels should be diagnosed whether the elevated BNP is due to asymptomatic heart failure or cancer.

Source: *PLoS One*, June 2017

Who Leaves the Hospital Against Doctors' Advice?

Certain factors are associated with a person's decision to leave the hospital against the advice of his or her care provider.

Discharge against medical advice is linked with an increased risk of hospital readmission, higher morbidity and mortality, and increased costs. To examine the factors involved, a team led by Jashvant Poeran, MD, PhD, of the Icahn School of Medicine at Mount Sinai in New York City, analyzed national data on all U.S. hospitalizations.

Their analysis, which included more than 29 million hospital stays listed in the 2013 National Inpatient Sample, found that more than 50,000 older hospitalized adults (out of 12 million people under hospital care overall) left their hospitals against medical advice that year. Older men and women were four times less likely to do so than people 18 to 64 years of age. From 2003 to 2013, rates increased from 1.44% to 1.78% in those ages 18 to 64 years, and from 0.37% to 0.42% in those 65 years of age or older.

In both age groups, men, people insured by Medicaid or those without health insurance, and individuals living with mental health concerns had the highest risks of leaving the hospital against medical advice. In older adults, race/ethnicity and poverty were more pronounced as risk factors, with older African-American individuals at 65% increased risk and low-income older people at 57% increased risk of leaving the hospital against medical advice.

Source: *Journal of the American Geriatrics Society*, June 2017. ■