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Contact: Stephanie Desmon

sdesmon1@jhmi.edu

410-955-8665

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Diabetes raises risk of death in cancer surgery patients

People with diabetes who undergo cancer surgery are more likely to die in the month following their operations than those who have cancer but not diabetes, an analysis by Johns Hopkins researchers suggests.

The study, to be published in the April issue of the journal *Diabetes Care*, finds that newly diagnosed cancer patients — particularly those with colorectal or esophageal tumors — who also have Type 2 diabetes have a 50 percent greater risk of death following surgery. Roughly 20 million Americans — about 7 percent of the population — are believed to have diabetes and the numbers continue to grow.

"Diabetic patients, their oncologists and their surgeons should be aware of the increased risk when they have cancer surgery," says Hsin-Chieh "Jessica" Yeh, Ph.D., assistant professor of general internal medicine and epidemiology at the Johns Hopkins University School of Medicine, and one of the study's leaders. "Care of diabetes before, during and after surgery is very important. It should be part of the preoperative discussion.

"When people are diagnosed with cancer, the focus often is exclusively on cancer, and diabetes management may be forgotten," Yeh says. "This research suggests the need to keep a dual focus."

The risk picture presented by Yeh and her colleagues emerged from a systematic review and meta-analysis of 15 previously published medical studies that included information about diabetes status and mortality among patients after cancer surgery. The size of the studies ranged from 70 patients to 32,621 patients, with a median of 427 patients.

Yeh says the analysis could not say why cancer patients with diabetes are at greater risk of death after surgery.

One culprit could be infection; diabetes is a well-established risk factor for infection and infection-related mortality in the general population, and any surgery can increase the risk of infections. Another cause may be cardiovascular compromise. Diabetes raises the risk of atherosclerosis and is a strong predictor of heart attack and death from cardiovascular disease.

"The ultimate question of whether better diabetes management in people with cancer increases their survival after surgery can't be answered by this study," she says. "More research will be needed to figure this out."

Yeh says the Johns Hopkins study is part of a growing volume of research under way at the intersection of diabetes and cancer, two leading causes of death in the United States. Diabetes appears to increase risk for some types of cancer, and risk factors such as physical inactivity, unhealthy lifestyles and obesity are believed to be shared by both diseases.

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Other Johns Hopkins researchers on the study include: Bethany B. Barone, S.C.M.; Claire F. Snyder, Ph.D.; Kimberly S. Peairs, M.D.; Kelly B. Stein, M.D.; Rachel L. Derr, M.D.; Antonio C. Wolff, M.D.; and Frederick L. Brancati, M.D., M.H.S.

For more information: <http://www.hopkinsmedicine.org/gim/faculty/yeh.html>
