

# Bariatric Surgery Tied to Lower Cancer Mortality

BY BRUCE JANCIN

ESTES PARK, COLO. — The biggest chunk of the substantial mortality benefit conferred by bariatric surgery comes not from reduced cardiovascular mortality or diabetes-related deaths, but from fewer deaths due to cancer, according to two large studies of more than 20,000 subjects.

The large relative risk reductions in diabetes-related and cardiovascular mortality following bariatric surgery have garnered much attention. But obese individuals have an increased risk of cancer, and the absolute number of cancer deaths avoided following the surgery overshadows deaths due to the other causes, Dr. Daniel Bessesen explained at a conference on internal medicine sponsored by the University of Colorado.

"It has been thought that insulin binding to insulin-like growth factor might promote cancer. People have wondered, if patients lose weight and their insulin levels go down, could this prevent cancer? The data from these two studies suggest so," observed Dr. Bessesen, professor of medicine at the university and chief of endocrinology at Denver Health Medical Center.

The Swedish Obese Subjects (SOS) study was a prospective, nonrandomized study in more than 4,000 obese individuals, of whom about half underwent gastric bypass surgery by general sur-

geons in Swedish community hospitals.

The surgery patients had an adjusted 29% decrease in overall mortality at an average 10.9 years follow-up, compared with matched controls. There were 13 fatal MIs in the surgery group, compared with 25 in controls. There were 29 cancer deaths in the surgery arm, compared with 47 in controls (N. Engl. J. Med. 2007;357:741-52).

The other major study was a retrospective cohort study involving 7,925 obese Utah residents who underwent gastric bypass surgery and an equal number of matched controls who did not have the surgery. At 7.1 years of follow-up the adjusted mortality was 40% lower in the surgery group.

Once again, the biggest absolute benefit was in reduced cancer deaths. The relative risk of death due to cancer was 60% lower in the surgery group, with a rate of 5.5 deaths per 10,000 person-years, compared with 13.3/10,000 person-years in controls. Deaths due to coronary artery disease fell from 5.9 to 2.6/10,000 person-years, a 56% reduction, while diabetes-related deaths dropped by 92% from 3.4 to 0.4/10,000 person-years (N. Engl. J. Med. 2007;357:753-61).

Both the Swedish and Utah investiga-

tors have recently expanded upon their findings via follow-up studies. The Utah investigators used the Utah Cancer Registry in looking at 6,596 patients who underwent gastric bypass surgery and 9,442 severely obese individuals who did not. During a mean 12.5 years of follow-up, the total incidence of cancer was 34% lower in the surgery group. Cancer mortality was 46% lower (Obesity [Silver Spring] 2009;17:796-802).

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decrease during 10 years of follow-up in women who had bariatric surgery, but no such reduction in men (Lancet Oncol. 2009;10:653-62).

In addition to the reduced risk of death, what other benefits can obese patients realistically expect from bariatric surgery? Dr. Bessesen said gastric bypass—the most popular and effective form of bariatric surgery—consistently achieves roughly a 30% weight reduction, or 50%-60% loss of excess body weight, and this has been maintained at follow-up now stretching out beyond 15 years. Laparoscopic adjustable gastric band surgery, which is less invasive and less risky, is also less

effective, conferring about a 20% weight reduction.

"Laparoscopic band results are variable depending on surgeon expertise. A really good surgeon will get 25% weight loss, an average surgeon more like 16%-18%. Roux-en-Y gastric bypass weight loss results are more consistent," he said.

Sleep apnea is improved in almost all affected patients after bariatric surgery. So are gastroesophageal reflux, urinary incontinence, and hyperlipidemia. Diabetes is resolved after gastric bypass in 80%-85% of affected patients, and in 60%-70% after laparoscopic adjustable gastric banding. Hypertension is the comorbidity most resistant to resolution; only about half of patients are eventually able to stop their antihypertensive medications after bariatric surgery, he continued.

As for the risks of bariatric surgery, with improved surgical techniques the 30-day mortality of gastric bypass has dropped to about 0.5%, with 1%-2% mortality at 2 years. In contrast, the long-term mortality of laparoscopic adjustable gastric banding is only about 0.1%; however, this procedure entails the inconvenience of many follow-up adjustments. Pulmonary embolism, wound dehiscence and infection, anastomotic leaks, and anastomotic stricture are potential complications of bariatric surgery. And about 10% of patients fail to lose substantial weight after bariatric surgery; to date there's no way to identify them in advance. ■



## Prior Gains in CV Risk Reduction Waning

BY DIANA MAHONEY

The prevalence of a low-risk profile for cardiovascular disease among adults in the U.S. population has decreased in recent years, suggesting the "huge potential" for preventing cardiovascular disease is far from being realized.

Using data from four National Health and Nutrition Examination Surveys, Dr. Earl S. Ford, medical officer of the U.S. Public Health Service at the Centers for Disease Control and Prevention in Atlanta, and colleagues tracked cardiovascular risk data for U.S. adults aged 25-75 years and showed that the prevalence of a low-risk profile increased from 4.4% at the time of the first survey (1971-1975) to 10.5% by the third survey (1988-1994), but then decreased to 7.5% in the fourth survey (1999-2004).

The low-risk-factor profile included these variables: not currently smoking; total cholesterol less than 200 mg/dL without cholesterol-lowering medications; BP less than 120/80 mm Hg without antihypertensive medications; body mass index less than 25 kg/m<sup>2</sup>; and no prior diabetes diagnosis (Circulation 2009;120:1181-88).

"The limited strides that were made toward achieving low-risk status during the 1970s and 1980s have more recently been negated by the obesity epidemic and increased rates of hypertension and diabetes," Dr. Ford said in an interview. Now, "fewer than 10% of Americans are meeting the low-risk goals."

An analysis of the individual risk categories showed favorable trends for not currently smoking (60% at the time of the first survey and 74% by the fourth survey) and low concentrations of total cholesterol (35% and 43%). For blood pressure, the low-risk percentage was higher for the period 1988-1994 than for the 1971-1975 period, but it decreased for the period 1999-2004.

Similarly, "the distribution of body mass index progressively deteriorated over time," they reported, adding that the unfavorable trends "argue for vigorous population-based approaches to reverse the unhealthy shift in the distributions of blood pressure and body mass index and to sustain or accelerate the improvement in the distribution of total cholesterol."

In an accompanying editorial, Rob M. van Dam, Ph.D., of the Harvard School of Public Health in Boston, and Dr. Walter C. Willett of Brigham and Women's Hospital in Boston, wrote that the trajectory of the risk factor trends is even more worrisome considering the analyses "do not yet reflect the effects of the current epidemic of childhood obesity, which causes an early onset of type 2 diabetes, hypertension, and dyslipidemia."

The findings "provide an important signal that the health of Americans is at a crossroad. The current path leads toward increasing adiposity, diabetes mellitus, cardiovascular disease, and disability and an unfit, socially isolated population stuffed with pills and subjected to frequent palliative procedures."

To change course, they stressed, physicians can help by working with their patients one on one but "their help is needed even more as leaders in the effort to reshape policies and our environment." (Circulation 2009;120:1171-3).

The authors report having no financial disclosures related to this report. ■

## Residents Counsel on Childhood Obesity

BY HEIDI SPLETE

A pilot program on how to better counsel patients and families about childhood obesity is underway in five California-based residency programs. Pediatric and family medicine residents are trained in strategies to help patients make behavioral changes proven to reduce and prevent obesity. For example, the program provides tips for helping individuals decrease their consumption of sugary beverages. Residents are armed with handouts on healthy beverage options and a visual aid that shows how much sugar is in a soda or sports drink.

The hope is that preparing future primary care physicians to effectively motivate lifestyle changes will help stem the prevalence rates of pediatric obesity, type 2 diabetes,

and heart disease, Dr. Lydia Tinajero-Deck, the project's principal investigator, said in an interview.

The pilot, dubbed Fit for Residents, was developed by the University of California, Los Angeles, in collaboration with the American Academy of Pediatrics and American Academy of Family Physicians, said Dr. Tinajero-Deck, a pediatrician at Children's Hospital & Research Center in Oakland, Calif.

"The actual pilot program for our residents is 1 year, with the goal of sustainability and integration" into the residency program as a permanent education piece, she said. To expand it nationwide, "We need to collect data on how the curriculum was taught within these pilot programs" to identify and promote the best practices, she added. ■