Internal Hernias Can Occur Long After Gastric Bypass

**ORLANDO** — Although internal hernias occur infrequently, they are a potentially life-threatening complication. ‘Internal hernia has been exceedingly rare and has not been the main cause of death since the introduction of laparoscopic bariatric surgery, but there are a number of reports of late complications after the operation,’ said Dr. Joseph A. Caruana, M.D., at the annual meeting of the American Society for Bariatric Surgery.

Dr. Caruana and his associates studied 785 laparoscopic gastric bypass procedures performed between 1998 and 2003 at Virginia Commonwealth University Medical Center in Richmond. The mean preoperative body mass index was 47 kg/m², and BMI was a mean 31 at presentation. Mean patient age was 36 years. There were no deaths. The researchers identified different types of hernias, including Peterson’s, mesocolic, jejunojejunal, and adhesion-related hernias. The researchers reviewed the medical record to assess 75% of patients. All findings were suspicious for internal hernia. Surgical technique made a difference in the hernia detection rate. In the first 107 patients, surgeons performed a retrocolic technique without defect closure. The internal hernia rate in this group was 6.5%. An antecolic technique was used with another 136 patients, and 4.4% developed a hernia. For the remaining 542 patients, surgeons performed a retrocolic technique with closure of all defects. Three developed an internal hernia, giving this group the lowest hernia rate—0.5%.

We recommend routine closure of all mesenteric defects,” Dr. Caruana said. Patients, primary care physicians, radiologists, surgeons, and physician assistants may fail to recognize signs or symptoms. Patients experiencing unexplained or intermittent abdominal pain should be considered for reexploration,” said Dr. Caruana. A laparoscopy fellow with the Minimally Invasive Surgery Center at Virginia Commonwealth University.

There might be a reluctance to reexplore patients with vague symptomatology, Dr. Caruana said. But that is not the only challenge. A mean of 303 days elapsed between bypass and development of symptoms in his study. The patient with a late complication may not see the same bariatric surgeon who performed the procedure, he said.

Gallstone Prophylaxis Usually Is Unwarranted After Gastric Bypass

**ORLANDO** — Cholecystectomy or medication to prevent gallstones after gastric bypass is unwarranted for most patients and expensive, according to results of a study presented by Joseph A. Caruana, M.D., at the annual meeting of the American Society for Bariatric Surgery.

Dr. Caruana and his associates studied 100 women and 25 men after open Roux-en-Y gastric bypass. None of the participants received ursodiol, a medication often used to prevent gallstones during rapid loss of weight. All procedures were performed by John R. Kirkpatrick, M.D., at the Minimally Invasive Surgery Center at Virginia Commonwealth University. The mean preoperative body mass index was 47 kg/m², and BMI was a mean 31 at presentation. Mean patient age was 36 years. There were no deaths. The researchers identified different types of hernias, including Peterson’s, mesocolic, jejunojejunal, and adhesion-related hernias. The researchers reviewed the medical record to assess 75% of patients. All findings were suspicious for internal hernia. Surgical technique made a difference in the hernia detection rate. In the first 107 patients, surgeons performed a retrocolic technique without defect closure. The internal hernia rate in this group was 6.5%. An antecolic technique was used with another 136 patients, and 4.4% developed a hernia. For the remaining 542 patients, surgeons performed a retrocolic technique with closure of all defects. Three developed an internal hernia, giving this group the lowest hernia rate—0.5%.

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Dr. Caruana said. ‘The risk and cost of prophylactic cholecystectomy outweigh any benefits. Concomitant cholecystectomy is indicated only when stones are detected pre- or intraoperatively.’

The incidence of symptomatic stones in the first two postoperative years was about 6% per year, Dr. Caruana said. ‘Most newly formed stones after gastric bypass are asymptomatic.’ He added that most patients with asymptomatic stones will remain asymptomatic during their lifetimes.

Many surgeons have proposed prevention with a cholecystectomy at the time of gastric bypass surgery (Obes. Surg. 2004;14:763-5). However, “most general surgeons would not remove the gallbladder during other procedures without the presence of stones,” Dr. Caruana said. Rapid weight loss after gastric bypass surgery can cause gallstones to form in up to 50% of patients. Dr. Caruana not- ed that he recommends ursodeoxycholic acid (UDCA) for those patients. ‘The incidence of symptomatic gallstones increases over time,’ Dr. Caruana said. ‘A better use of ursodeoxycholic acid might be for symptomatic patients who refuse surgery, he suggested.

Thromboembolic Risks After Roux-en-Y Bypass Identified

**ORLANDO** — Several factors predict an increased likelihood of deep vein thrombosis and/or pulmonary embolism for morbidly obese patients undergoing Roux-en-Y gastric bypass surgery, according to the results of a study presented by Rodri- go Gonzalez, M.D., at the annual meeting of the American Society for Bariatric Surgery.

Obesity is a major risk factor for perioperative deep vein thrombosis (DVT) and pul- monary embolism (PE). PE occurs in 2% of patients undergoing any surgical procedure, and it is responsible for 150,000 deaths in the United States each year, Dr. Gonzalez said. In bariatric surgery, the incidence of PE is estimated as 0.8%-4%, and the incidence of DVT as 0.6%-2%.

To identify the risk factors associated with these complications, the study looked at 660 consecutive patients undergoing Roux-en-Y gastric bypass. Prospectively collected data were reviewed by Dr. Gonzalez and his associates in the Interdisciplinary Obesity Treatment Group, department of surgery, University of South Florida, Tampa.

All patients received antithrombotic prophylaxis with heparin and sequential compression devices. Patients with a prior history of DVT, PE, or hypercoagulable diseases received inferior vena cava (IVC) filters; however, this practice was adopted only partway through the study, so some patients treated early did not receive the filters. Postoperative low-molecular weight heparin was dosed according to body mass in- dex. Patients with a BMI less than 50 kg/m² received 40 mg once a day, those with a BMI from 50 to 59 received 30 mg twice a day, and those with a BMI greater than 60 received 30 mg twice a day for 2 weeks.

The researchers used Doppler ultrasound scans to diagnose DVT and PE. DVT was diagnosed on the basis of clinical, necropsy, and/or radiologic findings. The radiologic techniques included CT angiography and ventilation/perfusion scans. In patients with IVC filters, DVT was diagnosed using duplex ultrasound. These patients had mainly lower-extremity DVTs.

In all, 9 patients developed DVT, 6 developed PE, and 7 developed both DVT and PE, to give a total of 16 patients with DVT (2.5% incidence) and 13 with PE (2% incidence). These figures are consistent with values reported in the literature. A multivariate analysis, comparing the group that developed DVT, PE, or both complications with patients who did not, showed that a significantly greater number were older than 50 (30% vs. 29%) or had an anatomic leak (32% vs. 3%), a history of smoking (23% vs. 9%) or a history of DVT and/or PE (23% vs. 7%).

An open surgical technique and revision operations were linked to complications.

**DR. GONZALEZ**

**Bariatric Surgery Mortality of 1.6% Higher Than Expected at 90 Days**

**ORLANDO** — The risk of death from gastric bypass surgery continues beyond the immediate postoperative period, according to a study presented by P Jason Granet, M.D., at the annual meeting of the American Society for Bariatric Surgery.

‘We are not out of the woods in the first 30 days,’ Dr. Granet said in a poster presentation.

Dr. Granet and his associates retrospectively analyzed the records of 1,250 pa- tients who had divided gastric bypass be- tween 1979 and 2003. All the operations were performed by John R. Kirkpatrick, M.D., chair of the surgery department at Washington Hospital Center and lead au- thor of the study.

Patients were managed with a standard protocol of 6 months of antithrombotic prophylaxis, antibiotics, anticoagulants, and monthly follow-up visits. High-risk pa- tients routinely received an inferior vena cava (IVC) filter; he added. The researchers identified 44 anatomic leaks during the 2-year study, said Dr. Granet, a general surgeon at Washington Hospital Center.

Seven deaths occurred in the immediate postoperative period, including two attributed to septicemia, three from pulmonary embolism (PE), and one from respiratory failure.

Another six deaths occurred up to 30 days after surgery, including three from PE and three from sudden death syndrome.

“We had an extra eight deaths from 30 days to 90 days—more PE or suspected PE—and we were doing everything you can do [in terms of prophylaxis],” Dr. Granet said.

An additional five “late deaths” occurred between 90 days and 2 years.

If only the immediate postoperative pe- riod is considered, postoperative mortal- ity is low, 0.5%. By 90 days, however, mor- tality is 1.6%, “a higher than expected” rate, Dr. Granet said.