

Study: Gastric Bypass Alleviates Migraine Headaches

Bariatric surgery can lead to total or partial alleviation of migraines in nearly 90 percent of morbidly obese patients diagnosed with migraine headaches, according to a new study* presented here at the 28th Annual Meeting of the American Society for Metabolic & Bariatric Surgery (ASMBS).

Over an average follow-up of three years after gastric bypass surgery, more than 70 percent of patients never had another migraine. More than 18 percent had partial resolution, with migraine attacks dropping from five to two per month.

These patients also experienced less painful migraines and took fewer medications. Eleven percent of patients had no change in migraine status.

“The incidence and severity of migraines was greatly reduced after bariatric surgery and weight loss, suggesting there are a number of people who are suffering from migraines who otherwise might not but for their excessive weight,” said Isaac Samuel, MD, Associate Professor, University of Iowa (UI) Roy J. and Lucille A. Carver College of Medicine and Director, UI Obesity Surgery Program.

UI researchers reviewed the medical records of 702 patients who had Roux-en-Y gastric bypass (RYGB) surgery between March 2000 and September 2009 who had a diagnosis of migraine for which they were being medically treated. Eighty-one patients qualified for the retrospective study and data were collected from institutional electronic medical records or via telephone. The post-operative follow-up period ranged from 12 months to eight-and-a-half years (patients followed up less than 12 months were excluded from the analysis).

The researchers noted that while gastric bypass generally improved or resolved migraine headaches among all study participants, those who developed their first migraines after becoming obese experienced the most improvement. About 80 percent had total resolution and 14 percent had partial improvement. Of the people who experienced their first migraine before the onset of obesity, 75 percent showed improvement after surgery (46% had total resolutions, 29% had partial improvement).

While many people with morbid obesity have additional medical issues associated with migraines, by analyzing the data, researchers showed that the improvement in migraine symptoms following surgery was independent of the improvement of their migraine-associated issues such as depression, anxiety or sleep apnea. Women with migraines associated with their menstrual cycles had similar improvement of migraines, as did others in the study.

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“The association between migraine headache and obesity is controversial,” added Dr. Samuel. “Although some suggest that obesity is associated with migraine prevalence, others have only found a correlation between the frequency and severity of migraine headache and obesity. The effect of surgical weight loss on morbidly obese patients with migraines provides a unique opportunity to evaluate this association. The higher number of patients identified in this study cohort that developed migraines after obesity onset could suggest that obesity contributes to an increased risk of having migraines rather than merely exacerbating the symptoms.”

Other causes of headache in obese patients could include pseudotumor cerebri, or idiopathic intracranial hypertension, an increase in pressure around the brain that can feel like a migraine and may be caused by obesity, which also responds well to bariatric surgery.¹ The UI retrospective study was unable to differentiate between the two, and researchers relied on the doctor’s diagnosis of migraine.

Bariatric surgery has been shown to be the most effective and long lasting treatment for morbid obesity and many related conditions.² People with morbid obesity have BMI of 40 or more, or BMI of 35 or more with an obesity-related disease such as Type 2 diabetes, heart disease or sleep apnea. Recently the FDA approved the use of an adjustable gastric band for BMI 30 and above, recognizing that there is an increase in mortality and medical complications of obesity at even this level of obesity.

According to the ASMBS, more than 15 million Americans have morbid obesity. Studies have shown patients may lose 30 to 50 percent of their excess weight 6 months after surgery and 77 percent of their excess weight as early as one year after surgery.³

The most common methods of bariatric surgery are laparoscopic gastric bypass and laparoscopic adjustable gastric banding (LAGB). Bariatric surgery limits the amount of food the stomach can hold, and/or limits the amount of calories absorbed, by surgically reducing the stomach’s capacity to a few ounces.

The federal government estimated that in 2008, annual obesity-related health spending reached \$147 billion,⁴ double what it was a decade ago, and projects spending to rise to \$344 billion each year by 2018.⁵ The Agency for Healthcare Research and Quality (AHRQ) reported significant improvements in the safety of bariatric surgery due in large part to improved laparoscopic techniques and the advent of bariatric surgical centers of excellence. The overall risk of death from bariatric surgery is about 0.1 percent⁶ and the risk of major complications is about 4 percent.⁷

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In addition to Dr. Samuel, FRCS, FACS, study co-authors include Yusuf Gunay MD, Mohammad Jamal MD, FACS, Alyssa Capper BS, Anas Eid MD, Debi Heitshusen RN, all from the UI Roy J. and Lucille A. Carver College of Medicine.

For more information on the ASMBS, visit www.asmb.org [1].

1 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1420807/> 2 RA Weiner. "Indications and Principles of Metabolic Surgery." U.S. National Library of Medicine. 2010; 81(4):379-94 3 AC Wittgrove et al. "Laparoscopic Gastric Bypass, Roux-en-Y: Technique and Results in 75 Patients With 3-30 Months Follow-up." *Obesity Surgery*. 1996. 6:500-504. 4 EA Finkelstein. "Annual Medical Spending Attributable To Obesity: Payer-And Service-Specific Estimates." *Health Affairs*. 2009. 28(5):822-831. 5 K Thorpe. America's Health Rankings. "The Future Costs of Obesity." 2009. 6 Agency for Healthcare Research and Quality (AHRQ). Statistical Brief #23. Bariatric Surgery Utilization and Outcomes in 1998 and 2004. Jan. 2007. 7 Flum et al. "Perioperative Safety in the Longitudinal Assessment of Bariatric Surgery." *New England Journal of Medicine*. 2009. 361:445-454. <http://content.nejm.org/cgi/content/full/361/5/445> 8 EA Finkelstein. "Annual Medical Spending Attributable To Obesity: Payer-And Service-Specific Estimates." *Health Affairs*. 2009. 28(5):822-831. 9 K Thorpe. America's Health Rankings. "The Future Costs of Obesity." 2009. 10 Agency for Healthcare Research and Quality (AHRQ). Statistical Brief #23. Bariatric Surgery Utilization and Outcomes in 1998 and 2004. Jan. 2007. 11 Flum et al. "Perioperative Safety in the Longitudinal Assessment of Bariatric Surgery." *New England Journal of Medicine*. 2009. 361:445-454. <http://content.nejm.org/cgi/content/full/361/5/445> [2]

* **PL 111 - Roux-en-Y Gastric Bypass Achieves Substantial Resolution of Migraine Headache in the Severely Obese: a 9-year analysis of 81 patients**

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