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In the News

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LINX for Reflux Disease Demonstrates Cost-Effectiveness Over Long Term

Up-Front Costs Can Be Mitigated by Savings After Surgery, Outstripping Nissen Fundoplication, According to Study

By Victoria Stern

Baltimore—For patients with gastroesophageal reflux disease, an antireflux procedure that uses a magnetic implant can provide significant relief.

Recent studies show that magnetic sphincter augmentation using the LINX Reflux Management System (Ethicon) effectively controls regurgitation, reduces reflux and, in many patients, eliminates the need for proton pump inhibitor therapy (*Gastrointest Endosc* 2019;89[1]:14-22.e1; *Clin Gastroenterol Hepatol* 2016;14[5]:671-677).

Despite the promising outcomes, physicians may be hesitant to adopt the technique given the higher surgical costs of magnetic sphincter augmentation compared with standard laparoscopic Nissen fundoplication, said Blair Jobe, MD, the director of the Esophageal and Lung Institute for Allegheny Health Network in Pittsburgh.

However, after assessing the expenses associated with managing GERD following LINX and Nissen fundoplication, Dr. Jobe found that this initial financial investment in LINX will likely be offset by lower medical costs after surgery. “The cost savings we found were associated with improved patient outcomes after LINX largely because patients went off their PPI,” Dr. Jobe told *General Surgery News*.



Dr. Jobe presented the results of this cost-effectiveness analysis at the 2019 annual meeting of the Society of American Gastrointestinal and Endoscopic Surgeons. The prospective observational study is part of the Blue Cross Blue Shield Vital Innovation program, an initiative that examines real-world data on patient outcomes and medical expenses associated with newer procedures, such as LINX.

In the current study, Dr. Jobe and his colleagues collected cost and outcomes data on 180 patients who underwent magnetic sphincter augmentation at Allegheny over a two-year period and compared them to payor data on 1,131 patients who had laparoscopic Nissen fundoplication. The authors analyzed the procedural costs and medical claims 12 months before and after surgery.

The analysis found a higher median cost of surgery in the magnetic sphincter augmentation group than the Nissen group (\$13,522 vs. \$13,388); however, the median reimbursement related to GERD treatment one year before and the year after surgery decreased significantly more in the magnetic sphincter augmentation group (\$201 less in payments per member per month vs. \$107 less for the Nissen group; $P=0.0001$). In addition, reimbursement for overall medical expenses one year before and the year after surgery fell by almost 11% in the LINX group compared with 1.4% in the Nissen group.

Dr. Jobe noted that although the study was not able to compare LINX and Nissen patients head-to-head as a prospective controlled trial would, the data did show that magnetic sphincter augmentation “likely comes with a notable cost savings over time.” Dr. Jobe

planned to continue following these patients over the next few years to determine whether the cost-effectiveness is maintained.

Robert Ganz, MD, a gastroenterologist at Minnesota Gastroenterology Abbott-Northwestern Hospital in Minneapolis, said the finding that LINX was slightly more expensive up front but cheaper a year later is “legitimate.” Dr. Ganz was not involved in the study.

“Few people focus on the downstream costs of surgery, but the expenses of follow-up office visits, complications and quality-of-life adverse events can add up,” said Dr. Ganz, also an associate professor of medicine at the University of Minnesota in Minneapolis.

Dr. Ganz said focusing on the lifestyle nuances of these procedures represents an important next step in future comparisons of LINX and Nissen.

“Even a perfect Nissen that controls reflux 100% will come with some unpleasant side effects, such as an inability to belch, vomit and difficulty swallowing,” Dr. Ganz said. “The LINX procedure mimics normal anatomy and results in fewer adverse events, but can come with its own issues. Understanding the trade-offs in long-term quality of life and costs more closely would be worthwhile.”

Dr. Jobe is a consultant to Ethicon.