The American Journal of Surgery 217 (2019) 500–501

Contents lists available at ScienceDirect

The American Journal of Surgery

journal homepage: www.americanjournalofsurgery.com

Laparoscopic placement of the LINX system in management of severe reflux after sleeve gastrectomy☆

DR. JONATHAN MYERS (Chicago, Illinois): As the popularity of laparoscopic sleeve gastrectomy increases, the management of one of its known potential complications, gastro-esophageal reflux disease, remains a priority. To-date, medical management with medications such as PPIs or conversion to Roux-en-Y gastric bypass remain mainstays for those with severe symptoms. The authors are to be commended for exploring and offering a less invasive operative intervention for their patients who refused gastric bypass. The LINX system provides an off-label FDA option to augment the lower esophageal sphincter pressure with magnetic beads in patients with severe reflux after sleeve gastrectomy.

After reviewing your manuscript, I have three questions regarding your study. Number one, you state that the average time between sleeve gastrectomy and the placement of the LINZ system was 43 months. What prompted the three-and-a-half-year delay before offering this modality to your patients and how were they managed successfully in the interim? Number two, can you elaborate on your follow-up? How did you determine that 12 out of 13 of your patients had improvement in their symptoms? It appears that all patients underwent a preoperative workup, including barium swallow, upper endoscopy, manometry and a pH study, yet it is not clear if any of these tests were repeated postoperatively. In addition, only 50% of your patients who still had the LINX completed their pre and postop surveys. And then, number three, in light of the potential improvement in symptoms in the majority of your patients after placement of the LINX system for postop GERD after sleeve gastrectomy, have you changed your algorithm for offering this procedure, or do you continue to recommend gastric bypass as the surgical treatment of choice in this patient population?

DR. HAWASLI: Your first question about the three-and-a-half-years period, patients after sleeve gastrectomy get better. The reflux improves and they get lost to follow-up and they show up alter after they have a problem that is not adequately managed by their gastroenterologist or internist. So these patients really come back after they have the issue with the reflux. They were managed prior to coming back with their PPI, so the majority of them, if they are doing fine, they don't come back except when the PPI start to fail. And basically what we notice here that if you see ten of the patients required gastric plication. So that means they are increased weight, and that's what we're seeing after two years after sleeve, the pouch can dilate and the patient can start to gain the weight and they can develop the reflux. So that's the reason why they came back after that period of time.

The follow-up usually after the surgery, I have the patient come in the office a week, six weeks, every three months the first year, every four months the second year, then every six months thereafter. We have no control of the patient coming back for follow up and it's hard to have them come back. They don't come back if they're doing well and they don't come back in they're not doing well. So it's very difficult to really keep tab on having patients come back. We try our effort as much as possible to have them come back for follow up.

How do you determine that 12 of the 13 did better is by clinical symptoms. And the 13 patients, the one that had the LINX removed, so she was eliminated from the long-term follow up, so the 12 patients in the office postoperatively in the first – usually they come in the first week and six weeks they're doing fine. And they lose the follow up afterwards, but we try to track them down. And six out of the 12 responded, which is 50% response rate. It's not that bad in surveys usually. And they responded that they are getting still better and they are fine without PPI.

Testing postoperatively again is an issue. I have to justify to the patient why am I doing the test again. This is not a study from the hospital where the patient doesn't have to pay copay. So unless there's problem to justify the postoperative repeat of symptom studies, I think it is going to be hard to convince the patient to go back for another procedure. So we rely on their quality of life, and, of course, survey, and the use of medication as a surrogate for them for getting better or not.

Why 50% completed the survey? Again it's not easy to have patients call back or come back after they're doing fine or they're not doing fine, if they fail and they go somewhere else. But we try our best to hopefully keep track for the long-term.

Did I change the algorithm? No, I still offer them the Roux-en-Y bypass as the number one choice. And I mention to them the pros and cons for the procedure and what could be the outcome afterward as well as possible reflux as well that can be present after the Roux-en-Y bypass. So the algorithm is still the same nationwide until we accept the LINX and until the insurance company accept it also as a payable procedure, I think we still have to monitor the outcome of these patients that are done sporadically. And I think there may be a few, a handful of centers in the United States who are doing it right now.

DR. BENJAMIN VEENSTRA (Chicago, Illinois): Just a question. In your sleeve to LINX cohort, you mention that in the preop workup, all patients had a 2 cm hiatal hernia or less. Were these new hiatal hernias? Were they present prior to their sleeve gastrectomy? And what's your current practice in performing the sleeve gastrectomy and repairing hiatal hernias?

DR. HAWASLI: All patients before sleeve, they undergo EGD, and

☆ Presentation given by Abdelkader Hawasli, M.D.

https://doi.org/10.1016/j.amjsurg.2018.12.050

only three patients of these had a preoperative hiatal hernia. And they developed small hiatal hernias afterwards.

During the sleeve procedure, if you find the hiatal hernia or you are determined that there is a hiatal hernia preoperatively, you fix it at the same time. Whether you do anti-reflux procedure or not, it's a physician preference. I have done anterior fundoplication and a modified Toupet Fundoplication on these patients. It depends on the size of the hernia and the amount of pouch that I want to leave behind. But that is not a standard practice of doing anti-reflux procedure at the time of the sleeve nationwide.