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Key Considerations for Endoscopic Sleeve Gastroplasty

**Dr. Buch:**
Welcome to *GI Insights* on ReachMD. I'm your host, Dr. Peter Buch. Joining us today to discuss endoscopic sleeve gastroplasty for weight loss is Dr. Victoria Gomez. Dr. Gomez is an Associate Professor of Medicine at Mayo Clinic Florida with a focus and expertise in interventional endoscopy. She is also Director of Bariatric Endoscopy at the Mayo Clinic.

Welcome to the program, Dr. Gomez.

**Dr. Gomez:**
Thank you so much, Dr. Buch. Thanks for this opportunity.

**Dr. Buch:**
Dr. Gomez, let's dive right in. With many choices for weight loss, who are appropriate candidates for endoscopic sleeve gastroplasty?

**Dr. Gomez:**
Great question. So, endoscopic sleeve gastroplasty, or what we commonly call it as ESG, is a nonsurgical, noninvasive procedure in which patients can lose weight by making the stomach smaller by placing sutures into the body of the stomach. The ideal candidate is someone who has obesity defined by a BMI of 30 or greater and either may not qualify for bariatric surgery if, for example, they don't have adequate insurance coverage or cannot pay out of pocket or who may not even qualify for bariatric surgery. So, for example, patients with Class 1 obesity with BMI between 30 and 34.9 would be ideal fits for this type of procedure. You could even consider lowering the BMI level a little bit to patients who are overweight with significant metabolic comorbidities.

**Dr. Buch:**
And once you've determined that endoscopic sleeve gastroplasty is right for your patient, how is the procedure carried out?

**Dr. Gomez:**
So this procedure is an outpatient procedure. Most of us would perform it with general endotracheal anesthesia just to keep the patient nice and comfortable. The patient comes into the endoscopy lab, and this procedure can be done in under an hour and a half, under two hours, depending on the technique, and then patients then usually go home the same day or may stay overnight for an observation at a local facility or hospital.

We use a commercially available endoscopic suturing device. There are now several out there on the market. And what these devices help us do is to perform suturing from within the body of the stomach. Many patterns exist, but the general trend is to basically start along the anterior wall of the body of the stomach, then we go to the greater curvature, posterior wall, and then back around to the greater curvature and interior wall. Once we've created the pattern that we think is best suitable for the patient, we then tie it all together with a cinch device or what other devices—the other commercially available devices have, and then we close down the pattern, and then we repeat it again. So the goal is to start more distally in the stomach, and we work our way proximally until we feel like we've reduced and plicated the body of the stomach adequately. We usually reduce the volume by at least 70 percent. So, in doing so, this induces early satiety, a restrictive component with eating, patients eat much less, and in doing so, they reduce their caloric intake and lose weight.

**Dr. Buch:**
Thank you. And when performing these procedures, what are the technical challenges? And how often is a revision necessary?

**Dr. Gomez:**

These are great questions. So, yes, ESG is a technically more challenging procedure. People ask me, "What sort of a skillset do you need?" Well, first of all, you have to be very comfortable with endoscopy, but more so you have to be uncomfortable—you have to be comfortable, excuse me, with managing complications and adverse events or, you know, little bumps in the road along, you know, during the procedure. So most of us perform endoscopic sleeves with a dual channel therapeutic gastroscope. So it is a thicker scope, it is a little stiffer, and it has two accessory channels to pass all the different devices. So, first and foremost, you have to be comfortable with setting up the equipment knowing how to load your sutures and knowing where to place your sutures. You know, keep in mind you have a stiffer device, and so you want to make sure that you're targeting where you need to go with the sutures and the plications. Then it comes down to determining whether you've placed enough sutures, whether your suturing pattern is adequate. There are numerous suturing patterns out there. We have yet to determine which one is the best because I think the weight loss outcomes really is, is something very multifactorial.

And then the other question is, you know, Do these procedures require revision? The short answer is yes. There are a subset of patients that will require a revision. What I tell all my patients during the consultation and the visits is that the stomach is a thick muscle. Just like bariatric surgery in which patients lose weight and will regain some weight over time, I don't think there's one intervention for weight loss out there that does not eventually result in somewhat of a little bit of weight gain. It's multifactorial as well, but there are subsets of patients in which they do fabulous after endoscopic sleeve and two to three years later may need a touch-up is what we would call it where we may go back in and retighten the sutures or reinforce where we originally sutured so that is an option but with the caveat that not all patients who may all of a sudden lose that sensation of early satiety or who may plateau their weight or regain weight are going to be eligible for a redo endoscopic sleeve because there are also lots of social and lifestyle factors that contribute to that.

**Dr. Buch:**
So, Dr. Gomez, what are the long-term outcomes? And how do these outcomes compare with surgical outcomes?

**Dr. Gomez:**
Great questions. We now have multiple studies looking at the long-term outcomes, and most recently published in The Lancet in July of just this year we now have level 1 evidence, so a randomized prospective controlled trial demonstrating that ESG is effective in losing weight, maintaining the weight loss and is superior to lifestyle modification alone. Compared to lifestyle modification alone, ESG on average can provide patients with over 13 to15 percent of their total body weight loss at the one-year mark, and over half of these patients are able to sustain a greater than 10 percent of their total body weight loss even at the two-year mark.

How does this compare to bariatric surgery? Well, we know that bariatric surgery, specifically the sleeve gastrectomy and the Roux-en-Y gastric bypass, are likely always going to have a more superior weight loss profile for many factors. However, there was also a big study published by a group in Saudi Arabia that has done thousands of these endoscopic sleeves, and when you are looking at noninferiority studies, ESG is somewhat comparable in that sense to laparoscopic sleeve gastrectomy. But it really just comes down to the patient profile, the preferences, and what exactly is going on with the patient. If a patient has very bad diabetes mellitus, on multiple medications, metabolic syndrome, or has a very, very high BMI, bariatric surgery will probably be the better option, but hands down we can definitely say and conclude that ESG is a durable procedure and does result in good long-term weight loss.

**Dr. Buch:**
Thank you for that. For those just tuning in, you're listening to *GI Insights* on ReachMD. I'm Dr. Peter Buch, and I'm speaking with Dr. Victoria Gomez about endoscopic sleeve gastroplasty.

Now, Dr. Gomez, is there a contraindication to performing any other bariatric surgery after endoscopic gastroplasty?

**Dr. Gomez:**
This is a fantastic question because patients ask us this all the time in the clinic. The bottom line is no. Endoscopic sleeve gastroplasty does not burn bridges to consideration of bariatric surgery in the future, and this has been demonstrated in the published studies. Now, whether or not the patient would be best suited with a sleeve gastrectomy in the future, for example, versus a Roux-en-Y gastric bypass is usually left up to the surgeon, anatomical factors, and a lot of times patient and cultural preferences. It may require a diagnostic upper endoscopy just to see how the endoscopic sleeve looks, where their sutures were placed, what pattern was carried out at the time of the procedure to really determine whether, for example, the surgeon is able to fire their stapler where they need to along the corpus of the stomach or whether a gastric bypass is better. The good news is that with ESG we don't touch the fundus for the most part. If the fundus is completely spared and preserved, then a Roux-en-Y gastric bypass is a great option.

**Dr. Buch:**
Thank you. Do you ever consider pharmacotherapy to improve outcomes?

**Dr. Gomez:**

Absolutely. We now have a lot of literature that demonstrates that adjunct or simultaneous pharmacotherapy with or initiated shortly after endoscopic sleeve gastroplasty is effective and result in even more robust weight loss. Particularly, there's now a big push and the GLP-1 agonists are very popular now amongst patients and providers. And why? Because they not only suppress appetite at the hypothalamic level, but they also delay gastric emptying, so it further potentiates the effects of the endoscopic sleeve gastroplasty. There are now GLP-1 agonist drugs that are injectable just once a week, so it makes it much more easy for the patient to remain compliant on this type of therapy. So, yes, absolutely, adjunct pharmacotherapy is highly advocated.

I think of it as analogous to a patient with coronary artery disease. So here you have patients that undergo balloon angioplasty or stenting of the coronary arteries. Do they ever just get discharged from the hospital just undergoing a stent and then on their way? Absolutely not. They're put on multiple drugs to reduce and modify their cardiovascular risk factors. The same treatment approach should be taken when you're managing patients with obesity, which is a chronic, lifelong condition.

**Dr. Buch:**
And finally, is there any other information you would like to share with our audience today?

**Dr. Gomez:**
Absolutely. Well, the good news is, I mean, I think 2022 has been a great year for bariatric endoscopy. The endoscopic sleeve gastroplasty and the endoscopic transoral outlet reduction procedure, or TORe, which is the, the latter procedure, which is what we use to help patients lose weight after regaining weight after gastric bypass, are now both FDA-approved procedures, so we are definitely heading in the right direction. But most importantly, I think anyone, any provider who wants to refer a patient to lose weight or any patient who is interested in these weight loss interventions will really best be served by incorporating this procedure in a multidisciplinary, comprehensive weight loss program because studies have shown that it's not so much the procedure that ends up being the main source, the main driving force for the weight loss. I tell my patients that ESG, for example, is like having the training wheels on a bicycle. The first several months, the first six months, this is going to help you really get into that, that habit of watching your portions, counting your steps, weighing yourself when appropriate, and then after a while the training wheels come off, and it's the education, it's the counseling, it's the classes that the patients complete before the procedure, and holding them accountable to the follow-up visits I think that really go a long way in helping patients lose weight.

**Dr. Buch:**
These were very interesting insights on endoscopic sleeve gastroplasty for weight loss. I want to thank my guest, Dr. Victoria Gomez, for sharing her insights. Dr. Gomez, it was a pleasure having you on the program.

**Dr. Gomez:**
The pleasure is all mine. Thank you so much, Dr. Buch.

**Dr. Buch:**
For ReachMD, I'm Dr. Peter Buch. To access this and other episodes in this series, visit ReachMD.com/GIInsights where you can be Part of the Knowledge. Thanks for listening, and see you next time.