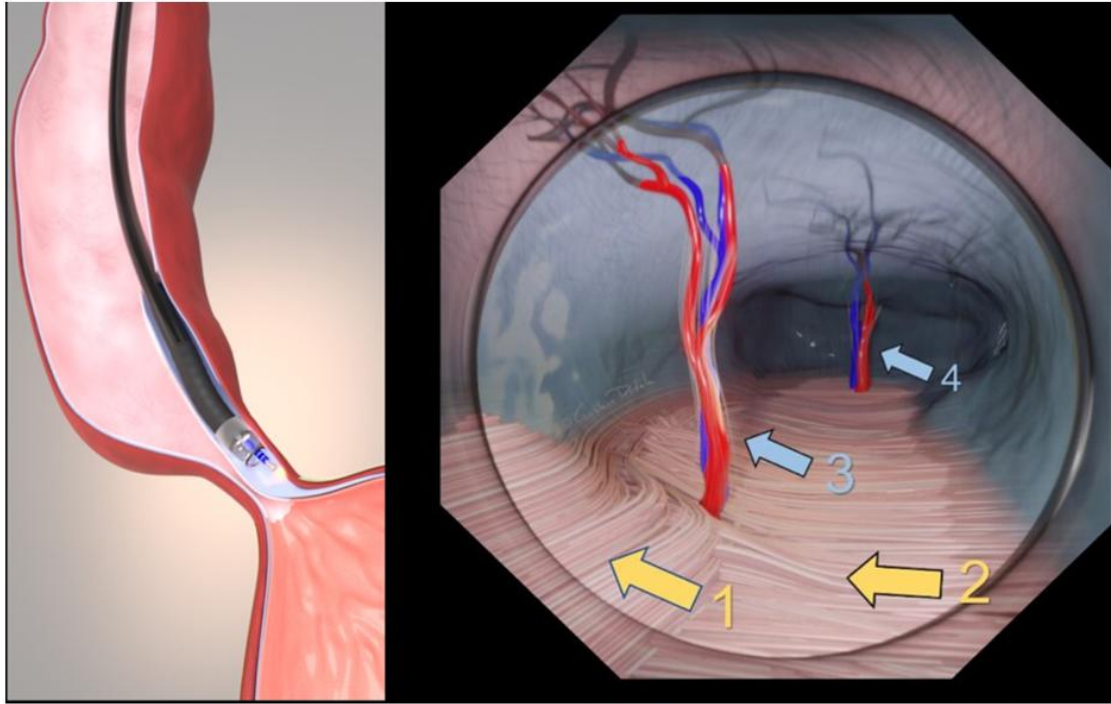
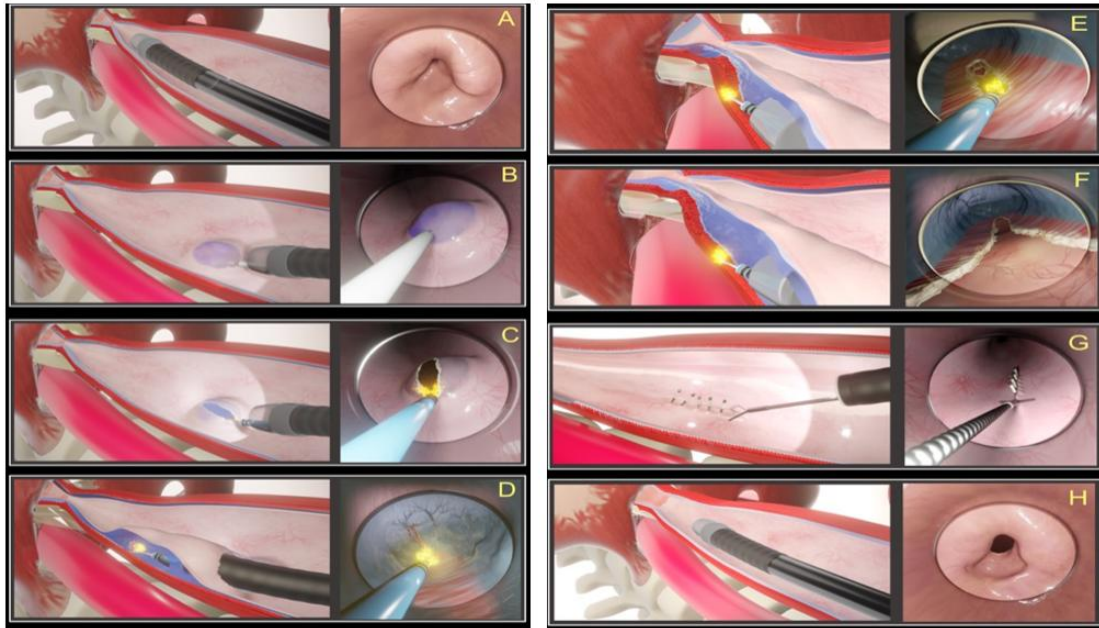




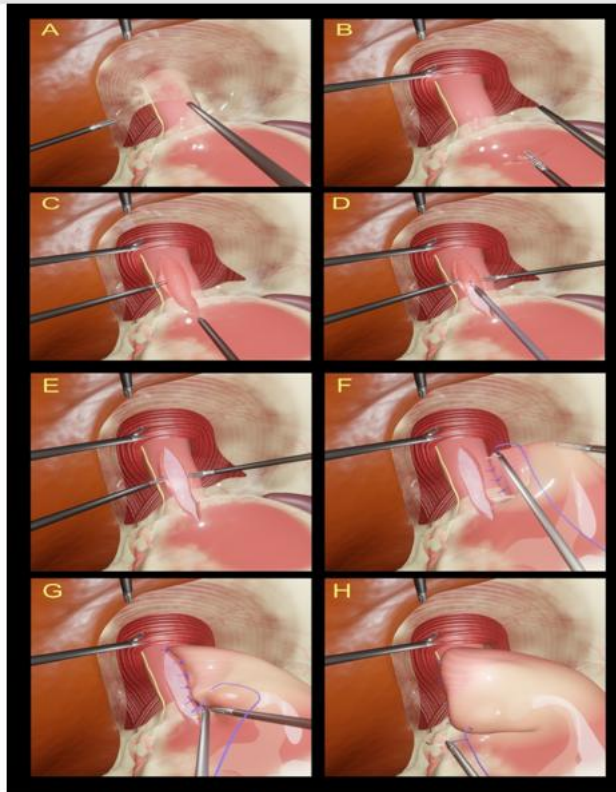
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Supplementary Figure 1 Peroral endoscopic myotomy with a posterior wall approach and technical characteristics of the dissection limits of the submucosal vessels. Arrow 1: Longitudinal muscle layer; Arrow 2: Circular muscle layer; Arrow 3: Proximal vessels; Arrow 4: Distal vessels.



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Supplementary Figure 2 Technical characteristics of peroral endoscopic myotomy. **A:** Cardia closed; **B:** Injection of solution into the submucosal layer; **C:** Opening of the esophageal mucosa; **D:** Dissected submucosal tunnel; **E:** Start of myotomy of the circular muscle layer; **F:** End of full-thickness myotomy (circular + longitudinal muscle layers); **G:** Closure of the mucosal layer with clips; **H:** Cardia partially open.



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Supplementary Figure 3 Surgical description of laparoscopic myotomy and partial fundoplication. **A:** Phrenoesophageal ligament; **B:** Anterolateral dislocation of the distal esophagus; **C:** Myotomy of the longitudinal muscle layer; **D:** Myotomy of the circular muscle layer; **E:** Exposure of the esophageal layer; **F:** Fundoplication begins with suturing of the posterior wall; **G:** Fundoplication continues with suturing along the left lateral edge; **H:** Fundoplication ends with suturing along the right edge, covering the myotomy.

GerdQ respondents score their symptoms in the last week, by frequency ^o	
^o	Frequency score (points) ^o

Question ^o	Number of days in the last week ^o			
	0 ^o	1 ^o	2-3 ^o	4-7 ^o
1 How often have you had a burning sensation behind your breastbone (heartburn)? ^o	0 ^o	1 ^o	2 ^o	3 ^o
2 How often have you had your stomach contents (liquid or food) rising into your throat or mouth (regurgitation)? ^o	0 ^o	1 ^o	2 ^o	3 ^o
3 How often have you felt pain in the center or upper part of your stomach? ^o	3 ^o	2 ^o	1 ^o	0 ^o
4 How often have you had nausea? ^o	3 ^o	2 ^o	1 ^o	0 ^o
5 How often have you had difficulty sleeping well because of your heartburn or regurgitation? ^o	0 ^o	1 ^o	2 ^o	3 ^o
6 How often have you taken additional medication for your heartburn or regurgitation, in addition to what your doctor told you to take (e.g., Pepsamar ¹ , Magnesia Bisurada ² , and Mylanta Plus ³)? ^o	0 ^o	1 ^o	2 ^o	3 ^o

Supplementary Figure 4 Gastroesophageal Reflux Disease Questionnaire (GerdQ).

¹Aluminum hydroxide (alum).

²Magnesium carbonate, calcium carbonate, bismuth subcarbonate, and sodium bicarbonate.

³Aluminum hydroxide, magnesium hydroxide, and simethicone.

Supplementary Table 1 Symptoms over time

Symptom	Grade	Total (n = 40), n (%)	Group		P value ¹
			LM-PF (n = 20), n (%)	POEM (n = 20), n (%)	
Weight loss					
Baseline	0	7 (17.5)	2 (10.0)	5 (25.0)	0.157
	1	7 (17.5)	4 (20.0)	3 (15.0)	
	2	13 (32.5)	5 (25.0)	8 (40.0)	
	3	13 (32.5)	9 (45.0)	4 (20.0)	
1 month	0	38 (95.0)	18 (90.0)	20 (100.0)	0.602
	1	2 (5.0)	2 (10.0)	0 (0.0)	
6 months	0	39 (97.5)	20 (100.0)	19 (95.0)	0.799
	1	1 (2.5)	0 (0.0)	1 (5.0)	
12 months	0	40 (100.0)	20 (100.0)	20 (100.0)	1.000
	1	0 (0.0)	0 (0.0)	0 (0.0)	
Dysphagia					
Baseline	1	1 (2.5)	0 (0.0)	1 (5.0)	0.414
	2	6 (15.0)	2 (10.0)	4 (20.0)	
	3	33 (82.5)	18 (90.0)	15 (75.0)	

1 month	0	30 (75.0)	16 (80.0)	14 (70.0)	0.602
	1	10 (25.0)	4 (20.0)	6 (30.0)	
6 months	0	26 (65.0)	14 (70.0)	12 (60.0)	0.565
	1	11 (27.5)	5 (25.0)	6 (30.0)	
	2	1 (2.5)	0 (0.0)	1 (5.0)	
	3	2 (5.0)	1 (5.0)	1 (5.0)	
12 months	0	26 (65.0)	14 (70.0)	12 (60.0)	0.547
	1	11 (27.5)	5 (25.0)	6 (30.0)	
	2	2 (5.0)	1 (5.0)	1 (5.0)	
	3	1 (2.5)	0 (0.0)	1 (5.0)	
Chest pain					
Baseline	0	5 (12.5)	2 (10.0)	3 (15.0)	0.355
	1	16 (40.0)	7 (35.0)	9 (45.0)	
	2	11 (27.5)	6 (30.0)	5 (25.0)	
	3	8 (20.0)	5 (25.0)	3 (15.0)	
1 month	0	32 (80.0)	19 (95.0)	13 (65.0)	0.108
	1	8 (20.0)	1 (5.0)	7 (35.0)	

6 months	0	35 (87.5)	19 (95.0)	16 (80.0)	0.414
	1	4 (10.0)	1 (5.0)	3 (15.0)	
	2	1 (2.5)	0 (0.0)	1 (5.0)	
12 months	0	37 (92.5)	19 (95.0)	18 (90.0)	0.799
	1	3 (7.5)	1 (5.0)	2 (10.0)	
Regurgitation					
Baseline	0	5 (12.5)	3 (15.0)	2 (10.0)	0.301
	1	9 (22.5)	6 (30.0)	3 (15.0)	
	2	7 (17.5)	3 (15.0)	4 (20.0)	
	3	19 (47.5)	8 (40.0)	11 (55.0)	
1 month	0	37 (92.5)	19 (95.0)	18 (90.0)	0.799
	1	3 (7.5)	1 (5.0)	2 (10.0)	
6 months	0	33 (82.5)	18 (90.0)	15 (75.0)	0.429
	1	7 (17.5)	2 (10.0)	5 (25.0)	
12 months	0	32 (80.0)	18 (90.0)	14 (70.0)	0.277
	1	7 (17.5)	2 (10.0)	5 (25.0)	

2	1 (2.5)	0 (0.0)	1 (5.0)
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¹Nonparametric Mann-Whitney test.

LM-PF: Laparoscopic myotomy and partial fundoplication; POEM: Peroral endoscopic myotomy.

Supplementary Table 2 Barium column height (in centimeters) (mean $\pm$ SD)

Variable	Total (<i>n</i> = 29)	Group	
		LM-PF (<i>n</i> = 14)	POEM (<i>n</i> = 15)
Height at 1 min			
Baseline	17.27 (8.65)	16.16 (7.13)	18.30 (10.01)
1 month	9.64 (6.35)	11.39 (5.05)	8.02 (7.14)
6 months	9.33 (3.71)	10.64 (3.07)	8.12 (3.93)
12 months	10.54 (3.76)	11.09 (2.89)	10.02 (4.46)
Height at 5 min			
Baseline	15.25 (8.31)	14.35 (7.20)	16.03 (9.35)
1 month	5.68 (6.05)	6.78 (5.79)	4.72 (6.31)
6 months	5.91 (4.92)	7.10 (5.16)	4.88 (4.63)
12 months	8.80 (5.52)	9.68 (5.12)	8.03 (5.92)

LM-PF: Laparoscopic myotomy and partial fundoplication; POEM: Peroral endoscopic myotomy.