Table S1: Search strategies and number of records retrieved from each database

Database	Results	Search Strategy
PubMed	22	("peroral endoscopic myotomy"[Title/Abstract] OR "POEM"[Title/Abstract] OR "endoscopic myotomy"[Title/Abstract]) AND ("achalasia"[MeSH Terms] OR "achalasia"[Title/Abstract] OR "esophageal achalasia"[Title/Abstract]) AND ("bariatric surgery"[MeSH Terms] OR "bariatric surgery"[Title/Abstract] OR "gastric bypass"[Title/Abstract] OR "sleeve gastrectomy"[Title/Abstract] OR "obesity surgery"[Title/Abstract] OR "post-bariatric"[Title/Abstract])
Scopus	55	("peroral endoscopic myotomy" OR POEM OR "endoscopic myotomy" OR "per-oral endoscopic myotomy") AND (achalasia OR "esophageal achalasia" OR cardiospasm) AND ("bariatric surgery" OR "obesity surgery" OR "gastric bypass" OR "Roux-en-Y gastric bypass" OR RYGB OR "sleeve gastrectomy" OR "gastric sleeve" OR "post-bariatric" OR "after bariatric" OR "gastric band" OR "lap band" OR "adjustable gastric band" OR LAGB OR "biliopancreatic diversion" OR "duodenal switch" OR BPD-DS OR "vertical banded gastroplasty" OR VBG)
Web of Science	37	("peroral endoscopic myotomy" OR POEM OR "endoscopic myotomy" OR "per-oral endoscopic myotomy") AND (achalasia OR "esophageal achalasia" OR cardiospasm) AND ("bariatric surgery" OR "gastric bypass" OR "Roux-en-Y gastric bypass" OR RYGB OR "sleeve gastrectomy" OR "post-bariatric")
OVID	26	Same strategy as above (adapted to OVID/Embase syntax)
TripPro	14	("peroral endoscopic myotomy" OR POEM OR "endoscopic myotomy" OR "per-oral endoscopic myotomy") AND (achalasia OR "esophageal achalasia" OR cardiospasm) AND ("bariatric surgery" OR "obesity surgery" OR "gastric bypass" OR "Roux-en-Y gastric bypass" OR RYGB OR "sleeve gastrectomy" OR "gastric sleeve" OR "post-bariatric")
Cochrane Library	0	("peroral endoscopic myotomy" OR POEM OR "endoscopic myotomy" OR "per-oral endoscopic myotomy") AND (achalasia OR "esophageal achalasia" OR cardiospasm) AND ("bariatric surgery" OR "obesity surgery" OR "gastric bypass" OR "Roux-en-Y gastric bypass" OR RYGB OR "sleeve gastrectomy" OR "gastric sleeve" OR "post-bariatric")

Table S2. Assessment of Small-Study Effects Using Egger's Regression Test

Outcome	t (df)	P value	Bias estimate (95% CI)	Tau²	Interpretation
Post-POEM Eckardt Score	1.50 (2)	0.2726	2.29 (−0.71 to 5.28)	1.3314	No small-study effects
Eckardt Score Change	−0.54 (2)	0.6452	−1.67 (−7.78 to 4.44)	3.8911	No small-study effects
Clinical Success	−0.33 (10)	0.7493	−0.09 (−0.63 to 0.45)	0.3605	No small-study effects
Technical Success	−0.69 (10)	0.5055	−0.10 (−0.37 to 0.17)	0.1100	No small-study effects
GERD Post-POEM	0.23 (6)	0.8245	0.33 (−2.44 to 3.09)	2.5930	No small-study effects
Dysphagia Resolution	−0.57 (9)	0.5832	−0.18 (−0.79 to 0.43)	0.3816	No small-study effects
Symptoms Recurrence	0.09 (8)	0.9321	0.03 (−0.60 to 0.65)	0.3427	No small-study effects
Total Adverse Events	1.01 (8)	0.3417	0.60 (−0.56 to 1.76)	1.2506	No small-study effects
Postprocedure Leak	−0.93 (7)	0.3822	−0.14 (−0.44 to 0.15)	0.0824	No small-study effects
Severe Adverse Events	NA (9)	--	0.00 (0.00 to 0.00)	0.0000	No small-study effects
Intra-Procedural Bleeding	0.73 (8)	0.4889	1.23 (−2.09 to 4.55)	12.2205	No small-study effects
Mortality	NA (9)	--	0.00 (0.00 to 0.00)	0.0000	No small-study effects

CI = confidence interval calculated as Bias estimate ± 1.96×SE; Tau² = multiplicative residual heterogeneity variance. All tests used standard error as a predictor with inverse variance weights (Egger 1997).

Table S3. Quality assessment of cohort studies.

Study ID	1.Were the two groups similar and recruited from the same population?	2.Were the exposures measured similarly to assign people to both exposed and unexposed groups?	3.Was the exposure measured in a valid and reliable way?	4.Were confounding factors identified?	5.Were strategies to deal with confounding factors stated?	6.Were the groups/participants free of the outcome at the start of the study (or at the moment of exposure)?	7.Were the outcomes measured in a valid and reliable way?	8.Was the follow up time reported and sufficient to be long enough for outcomes to occur?	9.Was follow up complete, and if not, were the reasons to loss to follow up described and explored?	10.Were strategies to address incomplete follow up utilized?	11.Was appropriate statistical analysis used?
Bashir, 2019	NA	Yes	Yes	No	No	Yes	Yes	Yes	Unclear	Yes	Yes
Kolb, 2020	No	Yes	Yes	No	No	Yes	Yes	Yes	No	No	Yes

Table S4. Quality assessment of case series.

Study ID	Were there clear criteria for inclusion in the case series?	Was the condition measured in a standard, reliable way for all participants included in the case series?	Were valid methods used for identification of the condition for all participants included in the case series?	Did the case series have consecutive inclusion of participants?	Did the case series have complete inclusion of participants?	Was there clear reporting of the demographics of the participants in the study?	Was there clear reporting of clinical information of the participants?	Were the outcomes or follow up results of cases clearly reported?	Was there clear reporting of the presenting site(s)/clinic(s) demographic information?	Was statistical analysis appropriate?
Sanaei,	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bomman, 2021	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

Table S5. Quality assessment of case reports.

Study ID	1. Were patient's demographic characteristics clearly described?	2. Was the patient's history clearly described and presented as a timeline?	3. Was the intervention(s) or treatment procedure(s) clearly described?	4. Was the post-intervention clinical condition clearly described?	5. Were adverse events (harms) or unanticipated events identified and described?	6. Does the case report provide takeaway lessons?	Was the current clinical condition of the patient on presentation clearly describ	Were diagnostic tests or assessment methods and results clearly described?
Donatelli, 2021	Yes	Yes	Yes	Yes	Yes. Justification: Intraprocedural bleeding is reported and its management described; no postoperative complications reported.	Yes	Yes	Yes
Guzman, 202	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes
Maselli, 2023t	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes
Slack, 2023	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Vespa, 2022	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes
Yang, 2014	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Pescaru, 2015	No	Yes	Yes	Yes	yes	Yes	Yes	Yes

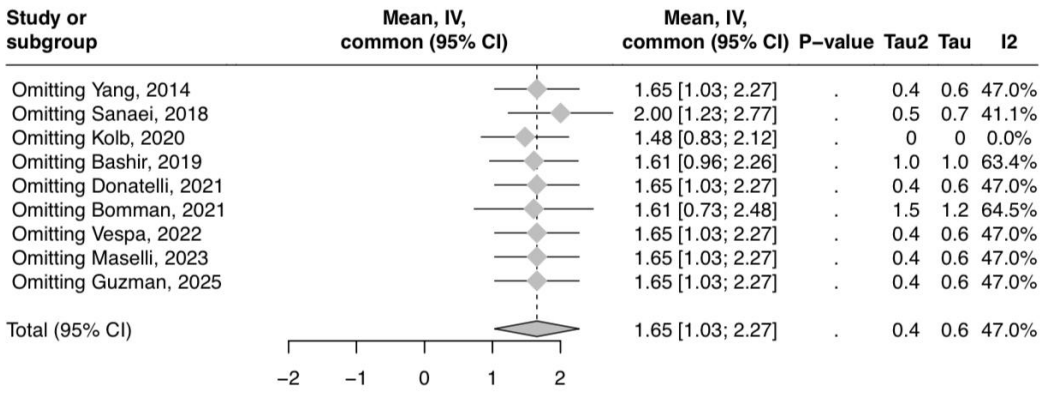

Figure S1. Sensitivity analysis for Post POEM Eckardt Score.

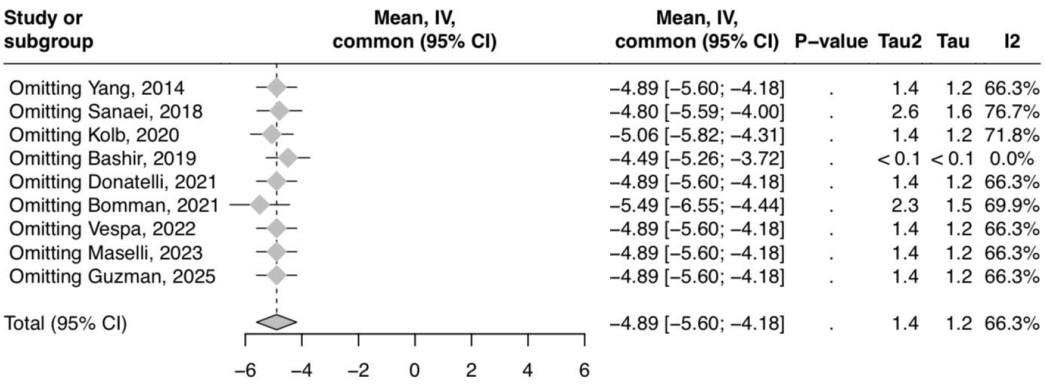

Figure S2. Sensitivity analysis for Eckardt Score Change

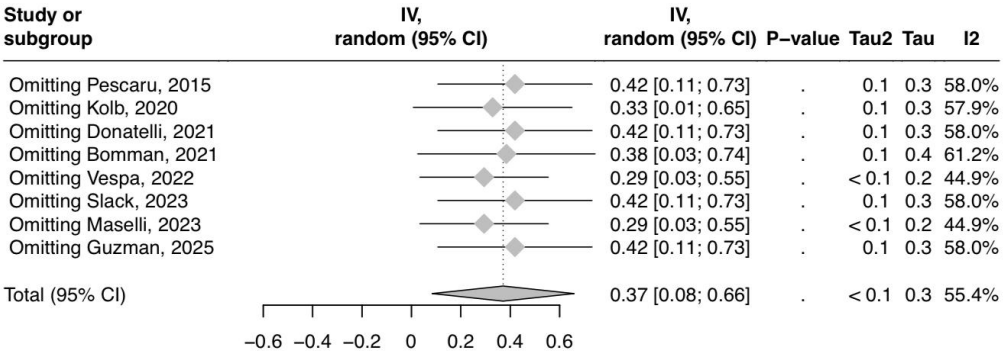

Figure S3. Sensitivity analysis for GERD Post-POEM

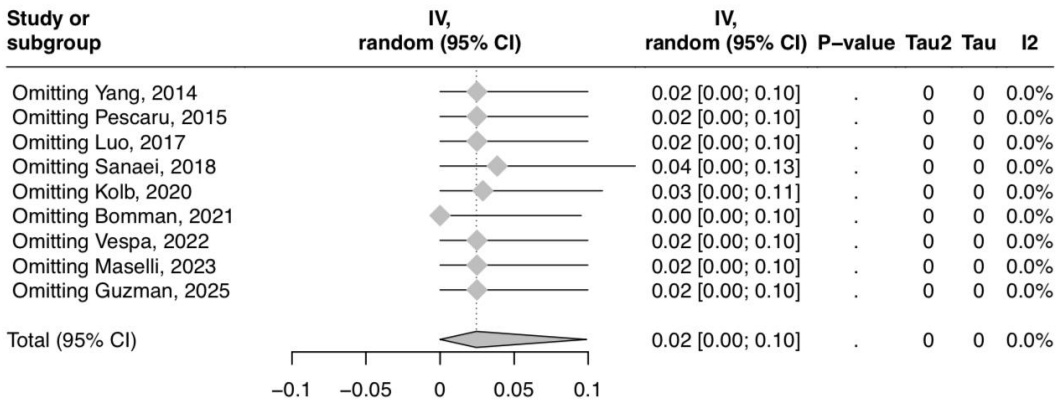

Figure S4. Sensitivity analysis for Post-Procedure Leak