Previous Esophageal Dilation May Not Affect Esophageal Diameter and Distensibility Index After Submucosal Tunnel Creation During Per-Oral Endoscopic Myotomy

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BACKGROUND

Endoscopic interventions (botulinum toxin, dilation) may induce fibrosis of the esophageal submucosa and influence subsequent operative approach, particularly when creating the submucosal tunnel (SMT) during per-oral endoscopic myotomy (POEM)

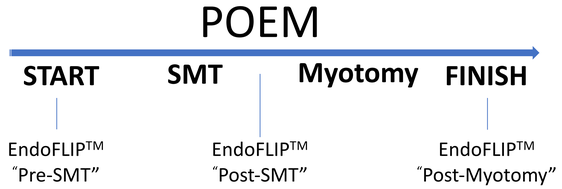
EndoFLIP™ can:
- Guide management: preop, intraop, postop
- Quantify results: diameter, distensibility index (DI)

Hypothesis: creation of the submucosal tunnel (SMT) has a greater effect in diameter, distensibility index (DI) in patients with previous dilation

METHODS

Retrospective chart review of consecutive POEM cases
- Single surgeon-endoscopist team
- Timeframe: June 1, 2011 – September 1, 2022
- EndoFLIP™: Diameter, DI
- Other data: Eckardt score, myotomy length, BMI, LOS

Achalasia/EGJOO **+/- Prior Dilation**



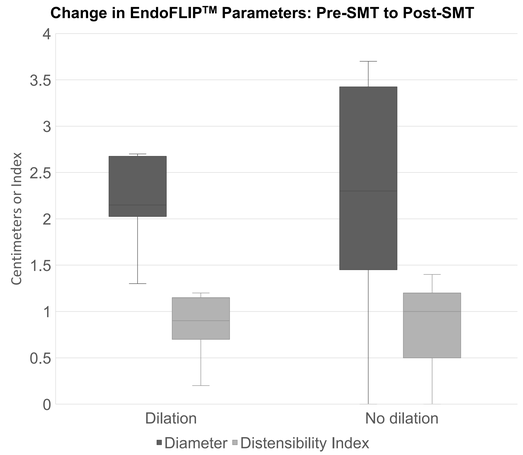
RESULTS

Our Series: 24 Cases Included

**25/144 cases with EndoFLIP™ data, 1 excluded due to multiple redo procedures*

	Total	Previous dilation	No previous dilation	p value
Total	**24**	**10**	**14**	--
Diagnosis				
Achalasia	23	10	13	0.388
EGJOO	1	0	1	
EndoFLIP™: Diameter				
Δ pre-SMT to post-SMT	2.15 [1.75 – 3.275]	2.15 [2.025 – 2.675]	2.3 [1.45 – 3.425]	0.792
Δ pre-SMT to post-myotomy	5.6 [4.25 – 6.3]	4.95 [4.15 – 6.075]	5.95 [5.35 – 6.275]	0.446
EndoFLIP™: Distensibility Index (DI)				
Δ pre-SMT to post-SMT	1 [0.5 – 1.2]	0.9 [0.7 – 1.15]	1 [0.5 – 1.2]	>0.999

Prior Dilation Does NOT Significantly Influence Diameter, DI from SMT Alone



Discussion

Fibrosis of the submucosa may be a consequence of esophageal dilation. As such, dissection in the submucosal plane to create the SMT may face intraoperative challenges, but may also yield some therapeutic benefit.

In our exploratory study, no significant differences in luminal diameter or DI as measured by EndoFLIP™ were identified between patients who underwent previous esophageal dilation and those who did not.

Further work is necessary to investigate the impact of prior endoscopic interventions on POEM management and outcomes

Limitations
- Single institution, surgeon-endoscopist team
- Small sample size
- Few variables examined

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