Exploring Ineffective Esophageal Motility's Impact on Early Postoperative Dysphagia in Anti-Reflux Surgery Patients

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Background

- Anti-reflux surgery (ARS) candidates typically undergo thorough evaluations to determine the best approach for surgically treating their gastroesophageal reflux disease (GERD) [1].
- One factor considered is ineffective esophageal motility (IEM), diagnosed by a distal contractile interval (DCI) <500mmHg·s·cm on high-resolution manometry (HRM).
- Surgeons may recommend partial fundoplication for these patients due to concerns regarding risk of postoperative dysphagia [2].
- Limited research has explored perioperative outcomes in individuals with low DCI.
- **Aim**: to identify patient characteristics associated with low DCI and investigate correlations between reduced mean DCI and early postoperative dysphagia.

Methods

- We conducted an analysis of our prospectively maintained ARS database from 2012 to 2023, including 555 patients who underwent preoperative HRM.

References:

[1] Stefanidis, D., Hope, W. W., Kohn, G. P., Reardon, P. R., Richardson, W. S., Fanelli, R. D., & SAGES Guidelines Committee. (2010). Guidelines for surgical treatment of gastroesophageal reflux disease. Surgical endoscopy, 24, 2647-2669.

[2] Addo, A., George, P., Zahiri, H. R., & Park, A. (2021). Patients with ineffective esophageal motility benefit from laparoscopic antireflux surgery. Surgical endoscopy, 35, 4459-4468.

Results

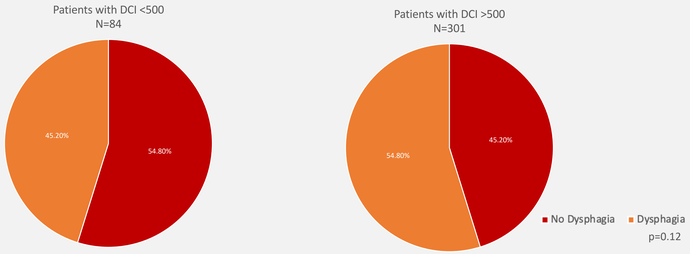
Patient Demographics by Mean DCI	<100	100-500	>500	p
Total N=555	N = 18	N = 111	N=426	
Male Sex [N (%)]	**11 (61)**	**57 (51.4)**	**160 (37.6)**	**0.007**
Age at surgery [Median (IQR)]	**46.9 (33.9-53.8)**	**55.3 (38.7-66.3)**	**55.58 (43.1-65.1)**	**0.02**
BMI [Median (IQR)]	26.2 (24.9-30.2)	26.8 (23.6-31.1)	27.6 (24.3-31.2)	0.61
Preop Dysphagia Severity [N (%)]				0.913
No dysphagia	11 (61)	61 (55)	250 (58.7)	
Mild dysphagia	1 (5.6)	16 (14.4)	57 (13.4)	
Moderate dysphagia	2 (11.1)	19 (17.1)	63 (14.8)	
Severe dysphagia	3 (27.3)	14 (12.6)	50 (11.7)	
Hiatal Hernia on Preoperative Barium Swallow [N (%)]	6 (33.3)	41 (36.9)	167 (39.2)	0.49
Preoperative DCI [Median (IQR)]	**40.8 (15.3-75.9)**	**324.4 (216-432)**	**1444 (892.4-2350)**	**<0.0001**
Fundoplication Type [N (%)]				0.056
Hill	4 (22.2)	6 (18.2)	58 (13.6)	
Nissen	4 (22.2)	51 (45.9)	155 (36.4)	
Dor	0	1 (0.9)	6 (1.4)	
Toupet	9 (50)	51 (45.9)	176 (41.3)	
Linx	0	2 (1.8)	23 (5.3)	
TIF	1 (5.6)	0	7 (1.6)	

Postoperative Outcomes by Mean DCI	<100	100-500	>500	p
Total N = 555	N = 18	N = 111	N = 426	
LOS [Median (IQR)]	0 (0-1)	0 (0-1)	0 (0-1)	0.34
Postoperative Complication [N(%)]	3 (16.7)	11 (9.9)	57 (13.4)	0.54
Readmission [N(%)]	3 (16.7)	14 (12.6)	52 (12.20)	0.89
Reoperation [N(%)]	2 (11.1)	13 (11.7)	26 (6.1)	0.141
Dilation [N(%)]	1 (5.6)	6 (5.4)	14 (3.3)	0.91

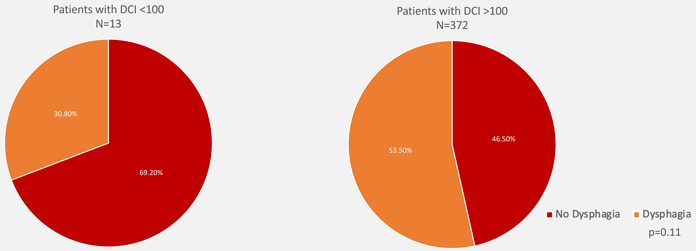
Dysphagia During First Postoperative Month

N=385	No dysphagia N=182 (47.3%)	Mild dysphagia N=77 (20%)	Moderate dysphagia N=104 (27%)	Severe dysphagia N=22 (5.7%)	p
DCI	1028 (498-2331)	1423 (629-2179)	1130 (641-2124)	733.5 (377-1374)	0.08

Dysphagia In Patients with DCI > or < 500



Dysphagia In Patients with DCI > or < 100



Conclusions

- In the initial postoperative period, a lower preoperative DCI alone does not predict early postoperative dysphagia.
- While some correlation may exist between lower DCI and severe postoperative dysphagia, investigation of additional factors is needed to explain these outcomes.