

Introduction

- Patients with obesity have a higher prevalence of esophageal motor disorders compared to the general population.
- Patients with class 3 obesity can experience minimal symptoms despite abnormal manometry suggesting abnormal visceral sensation.
- Endoscopic functional luminal imaging probe (EndoFLIP) assesses luminal distensibility and peristalsis during endoscopy (**Figure 1**).

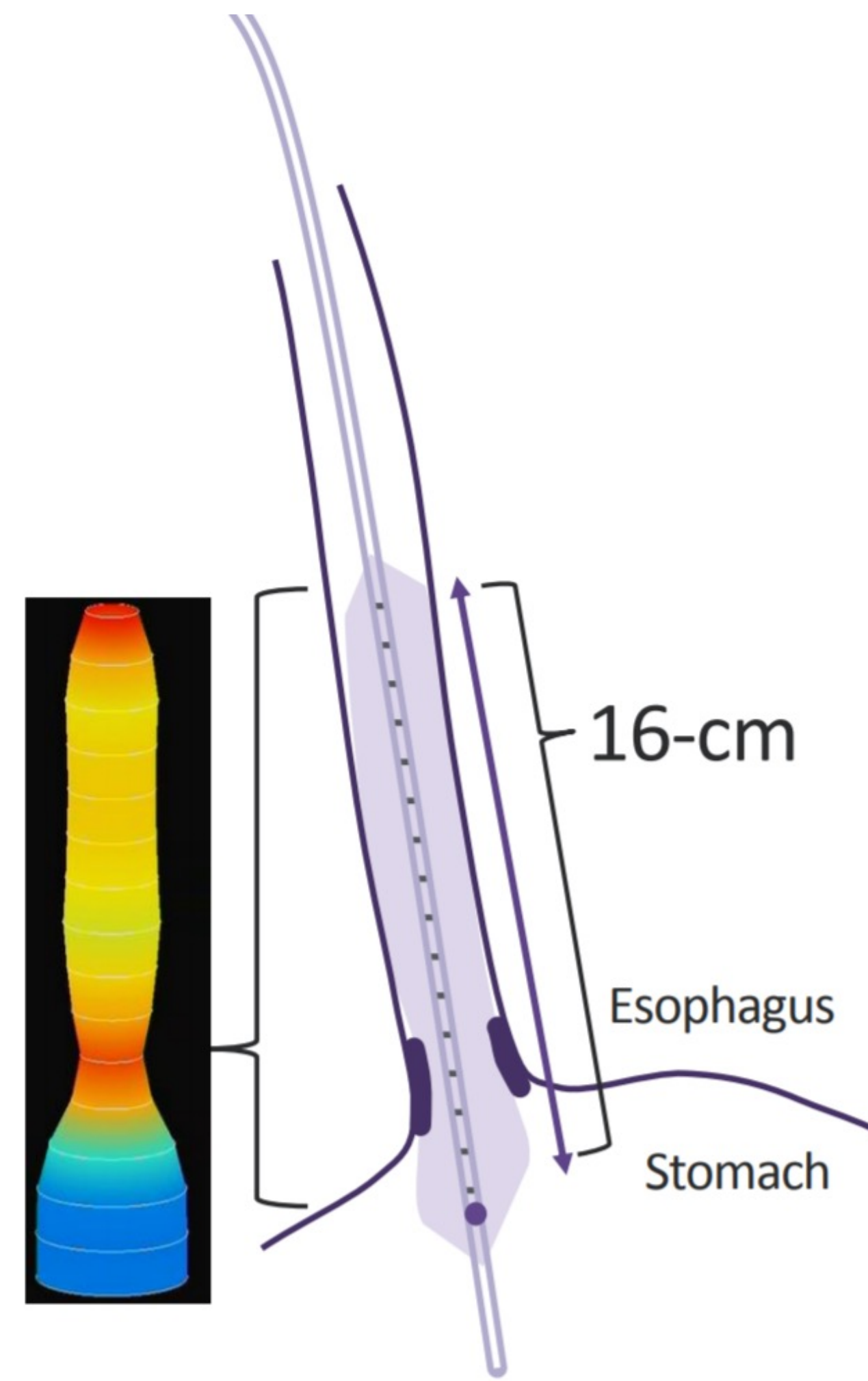


Figure 1: EndoFLIP catheter positioning and example of normal result

Aim

- To evaluate esophageal characteristics using EndoFLIP in patients with obesity and esophageal symptoms and determine clinical differences between obesity classes.

Methods

- We conducted retrospective chart review of patients with obesity and esophageal symptoms who had undergone EndoFLIP testing at a single tertiary care center between 2020-2022.
- Statistical analysis was performed using Fisher exact testing.

Results

Table 1: Comparison of patient characteristics and EndoFLIP findings by obesity class

	Class 1 Obesity BMI 30-35 (N=15)	Class 2 Obesity BMI 35-40 (N=9)	Class 3 Obesity BMI>40 (N=9)	p Value
MEDICATIONS; N (%)				
PPI	8 (53)	6 (67)	5 (56)	0.67
H2 blocker	5 (33)	1 (11)	2 (22)	
Opioids	2 (13)	0	2 (22)	
Benzodiazepines	0	1 (11)	0	
SYMPTOMS; N (%)				
Reflux	6 (40)	6 (67)	4 (44)	0.57
Dysphagia	12 (80)	7 (78)	5 (56)	
Heartburn	7 (47)	4 (44)	5 (56)	
Regurgitation	3 (20)	4 (44)	7 (78)	
Belching/Nausea	2 (13)	1 (11)	1 (11)	
Epigastric abdominal pain	4 (27)	2 (22)	2 (22)	
Vomiting	1 (7)	2	1 (11)	
EGD FINDINGS; N (%)				
Esophagitis	4 (27)	2 (22)	3 (33)	0.78
Gastritis	8 (53)	4 (44)	5 (56)	
Fluid in esophagus	1 (7)	2 (22)	3 (33)	
EndoFLIP FINDINGS				
EGJ-distensibility index; N (%) [mean]				
Normal	13 (87) [5.4]	5 (56) [4.65]	7 (78) [4.98]	0.26
Reduced	2 (13) [2.27]	4 (44) [0.91]	2 (22) [2.82]	
Contractility pattern; N (%)				
Repetitive Antegrade Contractions (RACs)	8 (53)	5 (56)	4 (44)	1
Diminished/Disordered Contractile Response (DDCRs)	3 (20)	2 (22)	2 (22)	
Absent	4 (27)	2 (22)	3 (33)	

- 33 patients with a BMI ≥ 30 were included (81% women, mean age 50.2 years, mean BMI 39.4).
- 9 (27%) had class 3 obesity, 9 (27%) class 2 obesity and 15 (45%) class 1 obesity.
- The most common symptoms were dysphagia (72%), heartburn (48%), reflux (48%), and regurgitation (42%).

- On EndoFLIP, 8 (24%) had reduced esophagogastric junction distensibility index (EGJ-DI), of which 2 (13%) were classified as obesity class 1, 4 (44%) obesity class 2 and 2 (22%) obesity class 3.
- Abnormal contractility patterns were seen in 7 (47%) obesity class 1, 4 (44%) obesity class 2 and 5 (56%) obesity class 3.
- There were no statistically significant differences between obesity classes with regards to medication use, co-morbidities, symptoms, endoscopy and EndoFLIP findings.

Discussion

- In this cohort, symptomatic patients in different obesity classes did not have significantly different LES function or peristalsis on EndoFLIP .
- EGJ distensibility was reduced in a quarter of the study population and seen more frequently in patients with class 2 obesity.
- Nearly half of the patients had abnormal peristalsis with DDCRs and absent contractility, with similar representation between obesity classes.
- Prospective controlled studies with EndoFLIP comparing symptomatic and asymptomatic patients in different obesity classes are needed to validate these findings.

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