

FA06.02: Increased OGJ distensibility after laparoscopic Heller's myotomy is associated with the severity of post-operative heartburn

Andrei Ilczyszyn¹, Abraham Botha²

¹Guys and St Thomas' NHS Foundation Trust, London/UNITED KINGDOM, ²Guy's and St Thomas' NHS Foundation Trust, London/UNITED KINGDOM

Background: OGJ distensibility has been proposed as a marker of treatment outcomes in achalasia and it has been shown to increase following laparoscopic Heller's myotomy (LHM) and POEM. Increased OGJ distensibility has also been shown to be related to the development of GERD. We therefore aimed to study the relationship between intra-operative distensibility and symptomatic GERD post LHM.

Methods: Patients underwent distensibility monitoring using an EndoFLIP EF-325 functional luminal imaging probe during LHM. Intra-operative cross sectional area (CSA) and distensibility index (DI) were measured before surgery and after myotomy and partial anterior fundoplication. Patients were followed up with a validated Urbach achalasia symptom scoring scale at 6 months.

Results: 19 patients (14F 5M) were studied. LHM resulted in an immediate increase in the distensibility of the OGJ in terms of the CSA and DI. Pre-operatively patients with severe food limitation had a significantly lower preoperative distensibility than those without (DI 1.61 mm²/mmHg vs. 6.01 mm²/mmHg, p=0.039). Six months post-surgery patients had a significant improvement in the Urbach score, as well as in the individual symptom domains (Table 1).

	Preop	Postop	P
CSA (mm ²)	26.5 (IQR 19.5-56.6)	65.5 (IQR 41.4-109)	p<0.001
DI (mm ² /mmHg)	1.55 (IQR 1.17-3.43)	4.21 (IQR 1.86-5.91)	p<0.001
	Preop	6-months FU	
Urbach Score	62.0 (IQR 52.0-69.0)	40 (IQR 33.0-45.0)	p<0.001
Severe Food Limitation	78.9%	5.3%	p=0.001
Severe Dysphagia Fluids	73.7%	5.3%	p=0.001
Severe Reflux	21.1%	5.3%	p=0.0375

The severity of reflux at 6 months correlated with the CSA after myotomy ($R^2=0.520$, $p=0.0224$) and after fundoplication, ($R^2=0.601$, $p=0.0065$).

Discussion: Intra-operative distensibility relates to both pre-operative symptoms of dysphagia and post-operative heartburn. Further study should be aimed at discerning an optimum range of distensibility that reliably predicts post-operative outcomes.

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Keywords: OGJ distensibility, achalasia, Laparoscopic Hellers Myotomy