# ENDOFLIP Impedance Planimetry Assisted Robotic Esophagomyotomy (Heller Myotomy) in patients with Achalasia

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## BACKGROUND

Functional luminal imaging probe FLIP uses electrical resistance (impedance) to calculate esophageal cross-sectional area (planimetry) with controlled volumetric distension. The aim of this study is to evaluate the utility of EndoFLIP intraoperatively during robotic assisted esophagomyotomy in adult patients.

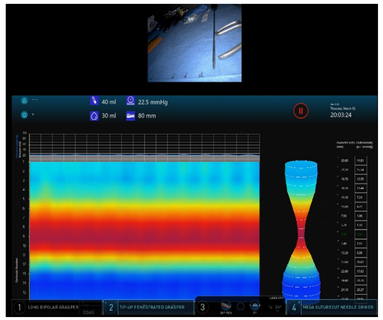


## METHODS

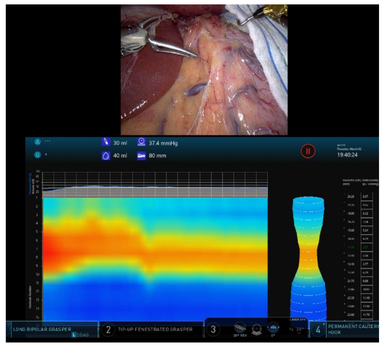
We performed a retrospective review of all patients undergoing EndoFLIP assisted robotic esophagomyotomy for achalasia between January 2020 to December 2022 (n=47). Primary outcome evaluated resolution of symptoms after surgical intervention. Secondary outcomes included change in distensibility index (DI), operative time, length of stay, reinterventions.

## RESULTS

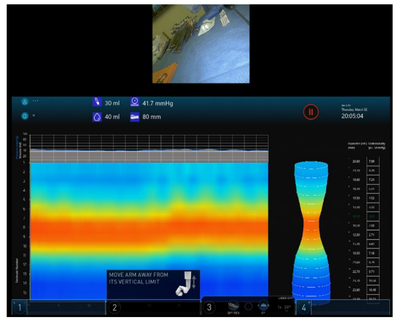
- Mean age of study participants was 53.02 years with 47.8% of study participants identifying as male.
- Mean change in DI from preoperative to postoperative measurement was 2.2 mm2/mmHg (SD=1.8), with a mean myotomy length of 5.88 cm (SD=1.16).
- Mean operative time was 97 minutes.
- Eckardt scores decreased on average by 4.94 (6.84, preoperatively to 1.9,
- postoperatively) following the intervention.
- Dor fundoplication was performed in all patients with same day discharges.
- One patient had a postoperative complication of a contained esophageal leak managed conservatively. There were no other reinterventions.



A



B



C

**Figure 1. E**ndoflip manometry pre-myotomy (A), Intraop (B) and post-wrap (C).

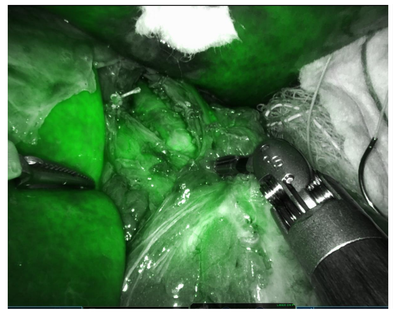


**Figure 2.** Laparoscopic image of GEJ post-myotomy with Firefly imaging showing mucosal perfusion (Left) and post-Dor fundoplication (Right)

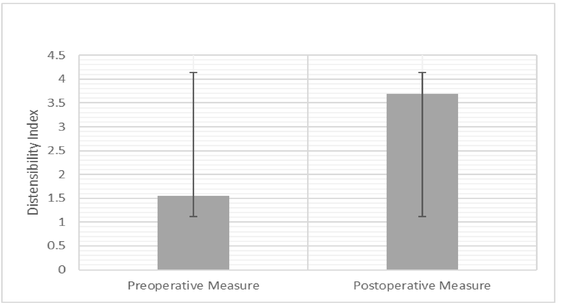



**Figure 3.** Mean change in distensibility index at GEJ from pre op and post op following myotomy intervention.

## CONCLUSION

EndoFLIP impedence planimetry provides an objective way to assess adequacy of myotomy and post treatment DI can be useful for predicting treatment responses and gastroesophageal reflux in patients with achalasia.

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