Elevated Preoperative Lower Esophageal Sphincter Pressure Predicts Improved Clinical Outcomes After Per Oral Esophageal Myotomy

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Background

- Per Oral Esophageal Myotomy (POEM) has shown to be beneficial as compared to Botox Injection and Pneumatic Dilation
- Difficult to predict who will have a long lasting response
- High lower esophageal sphincter pressures (LESP) lead to poor response to therapies such as Botox injection and Pneumatic Dilation

Objective: Evaluate if modern preoperative manometric data could predict a response to therapy after POEM

Study Design

- A Retrospective chart review
- Over a period of 13 years (2011-2023)
- Single tertiary care institution
- Total 231 patients included

- **Inclusion criteria:** patients with high-resolution manometry performed preoperatively and an Eckardt symptom score performed both preoperative and postoperatively were included

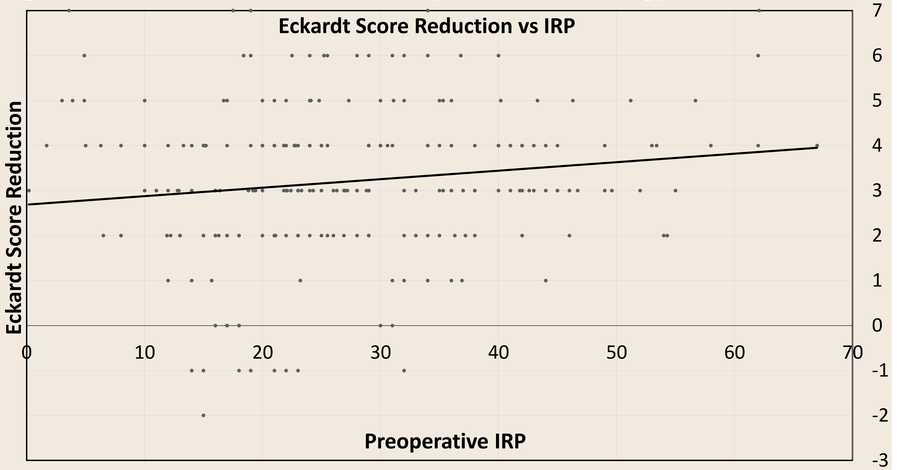
- **Comparison:** Chi square, analysis of variance, linear F-statistic test, and linear regression model

Results

Table 1: Preoperative IRP and Eckardt score reduction according to Achalasia types

Achalasia Type	Type 1	Type 2	Type 3	
N	54 (23%)	139 (59%)	38 (16%)	N=231
Mean Preoperative IRP	26.7 (4.9 to 69)	31.3 (1.7 to 78.9)	25.5 (3 to 48.7)	P=0.01
Eckardt Score Reduction	3.0 (0 to 6)	3.2 (-1 to 7)	3.5 (-2 to 7)	P=0.43
Required Further Treatment after POEM	5 (2%)	10 (4%)	2 (1%)	P=0.76

Figure 1: Eckardt score reduction vs Preoperative IRP showing positive correlation



Conclusions

- Achalasia type was not a predictive factor in need for further interventions
- Achalasia type was not predictive of the degree of symptom relief
- IRP was not predictive of the need for further interventions
- Higher IRP predicts better symptomatic relief postoperatively in terms of Eckardt score reduction

Take Home Points

1. **Treatment response to POEM between different Achalasia types is similar, hence POEM can also be offered to patients with type 3 Achalasia**
2. **Patients with higher preoperative LES pressures would likely benefit from POEM and report greater symptomatic relief**
3. **Patients with higher LES pressures did not need more postoperative interventions as compared to those with lower LES pressures. Hence, POEM favorable for patients with higher LES pressures**

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