# Symptomatic Outcomes after Peroral Endoscopic Myotomy in Patients with Previous Intervention

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## Introduction

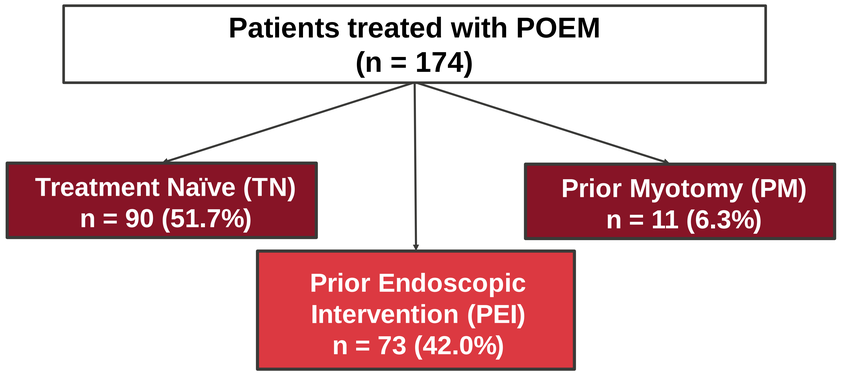
**Failure of achalasia treatment with POEM can be defined by persistently elevated Eckardt score (> 3)**
**Predictors of failure include:**

| Symptoms | Esophageal Morphology | Preoperative Evaluation | Other factors |
|---|---|---|---|
| High Preop Eckardt Score | Dilation | Manometric readings (low IRP, LES pressure) | Surgeon's Experience |
| Long duration of symptoms | Tortuosity | Non-Type 2 Achalasia | Young age |

**Hypothesis: Treatment naïve patients have lower risk of failure compared to patients treated with prior endoscopic intervention (botox, dilatation) or prior myotomy**

## Methods

- **Retrospective chart review 2011-2022**
- **Single tertiary care institution**
- **Comparison: Chi squared or Fisher's exact, T-test**
- **Multivariable logistic regression to predict persistently high Eckardt score**

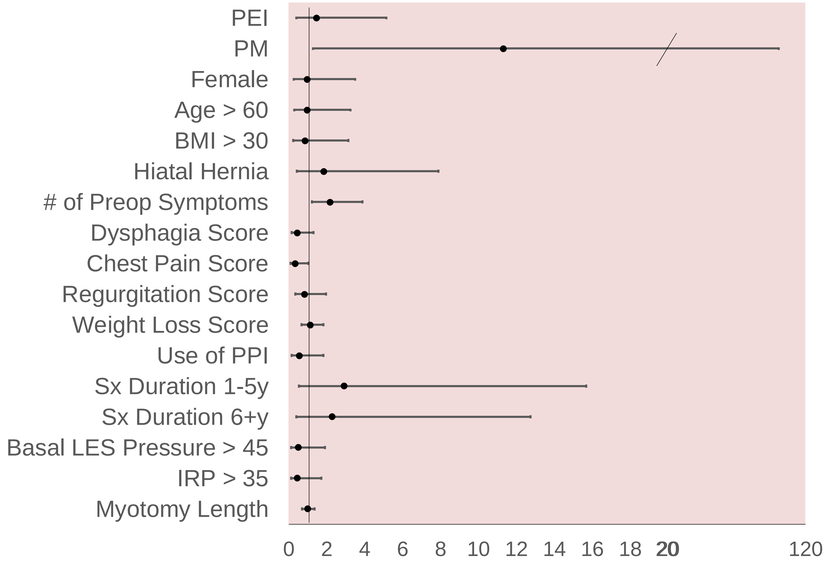



## Results

**Table 1. Comparison of Demographics and preoperative factors**

| | All Patients | TN (n = 90) | PEI (n = 73) | PM (n = 11) | P-value |
|---|---|---|---|---|---|
| Age > 60 | 99 (56.9%) | 47 (52.2%) | 48 (65.8%) | 4 (36.4%) | 0.08 |
| Female | 80 (47.1%) | 41 (45.6%) | 32 (46.4%) | 7 (63.6%) | 0.57 |
| BMI > 30 | 64 (36.8%) | 35 (38.9%) | 24 (32.9%) | 5 (45.5%) | 0.61 |
| Charlson-Deyo = 0 | 32 (18.4%) | 15 (16.7%) | 10 (13.7%) | 7 (63.6%) | 0.001 |
| 1,2 | 55 (31.6%) | 35 (38.9%) | 18 (24.7%) | 2 (18.2%) | |
| 3+ | 87 (50.0%) | 40 (44.4%) | 45 (61.6%) | 2 (18.2%) | |

**Figure 1. Forest Plot depicting Odds Ratios of having Postoperative Eckardt > 3 with 95% Confidence Intervals**




## Results

**Table 2. Comparison of previous interventions and manometry measurements**

| | TN (n = 90) | PEI (n = 73) | PM (n = 11) | P-value |
|---|---|---|---|---|
| Preop Eckardt | 4.5 (2.1) | 4.8 (1.9) | 4.1 (2.4) | 0.46 |
| # of Preop Symptoms | 3.4 (1.4) | 3.3 (1.3) | 4.0 (1.9) | 0.33 |
| Symptom Duration < 1y | 34 (43%) | 15 (22%) | 1 (10%) | 0.006 |
| 1-5y | 35 (44%) | 35 (52%) | 4 (40%) | |
| 6+ y | 10 (13%) | 17 (25%) | 5 (50%) | |
| Use of PPI | 54 (62%) | 36 (55%) | 6 (55%) | 0.62 |
| Hiatal Hernia | 9 (12%) | 15 (24%) | 1 ( 9%) | 0.16 |
| Basal LES Pressure (mmHg) | 47.9 (28.1) | 42.7 (22.6) | 23.9 (8.4) | 0.012 |
| Median IRP (mmHg) | 21.3 (11.7) | 23.7 (15.9) | 18.8 (12.0) | 0.49 |

**Table 3. Comparison of postoperative evaluation and reinterventions**

| | TN (n = 90) | PEI (n = 73) | PM (n = 11) | P-value |
|---|---|---|---|---|
| Postop Eckardt | 0.75 (1.2) | 1.0 (1.7) | 1.3 (2.0) | 0.45 |
| # of Postop Symptoms | 0.47 (0.75) | 0.64 (0.95) | 0.54 (1.0) | 0.43 |
| Had Postop Manometry | 9 (11%) | 7 (11%) | 2 (29%) | 0.32 |
| Had Postop Bravo | 23 (28%) | 16 (24%) | 2 (29%) | 0.86 |
| DeMeester Score | 23.6 (23.8) | 32.2 (27.3) | 17.2 (21.6) | 0.53 |
| Repeat Dilatation | 0 (0%) | 6 (8%) | 0 (0%) | 0.018 |
| Repeat Botox | 1 (1%) | 5 (7%) | 1 (9%) | 0.083 |

## Conclusion

**Not surprisingly, PEI had higher Charlson-Deyo Comorbidity Score (sicker patients) and both PEI and PM had longer symptom duration than TN patients.**

**Key Finding: Factors associated with POEM failure were PM (OR 11.3) and number of preoperative symptoms (OR 2.2).**

**No other factors were associated with POEM failure, although this is limited by the power of our analysis.**
**This study may help guide patients' expectations after POEM.**