

Myotomy Length Impacts Quality of Life Outcomes after POEM for Achalasia

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Introduction

Optimal myotomy length for per oral endoscopic myotomy (POEM) remains undetermined. Traditional myotomy is 4-5 cm on the esophagus with extension onto the stomach^{1,2}. A longer myotomy is associated with esophagitis but not increased GERD symptoms³. The clinical implications of a shorter myotomy are not well understood.

Hypotheses

Shorter myotomy length leads to

- lower GERD-HRQL scores
- equivalent Eckardt scores
- decreased need for additional procedures

Methods

A retrospective observational cohort study was performed (n = 203). Myotomy length was grouped as <6 cm, 6-8 cm, or >8 cm. The primary outcome was GERD-HRQL scores at 1 and 3 years post-POEM. Secondary outcomes were Eckardt score and need for follow-up procedures (Botox injection, myotomy, pneumatic dilation, fundoplication). Linear regression was performed to evaluate GERD-HRQL scores. Eckardt scores were analyzed using logistic regression.

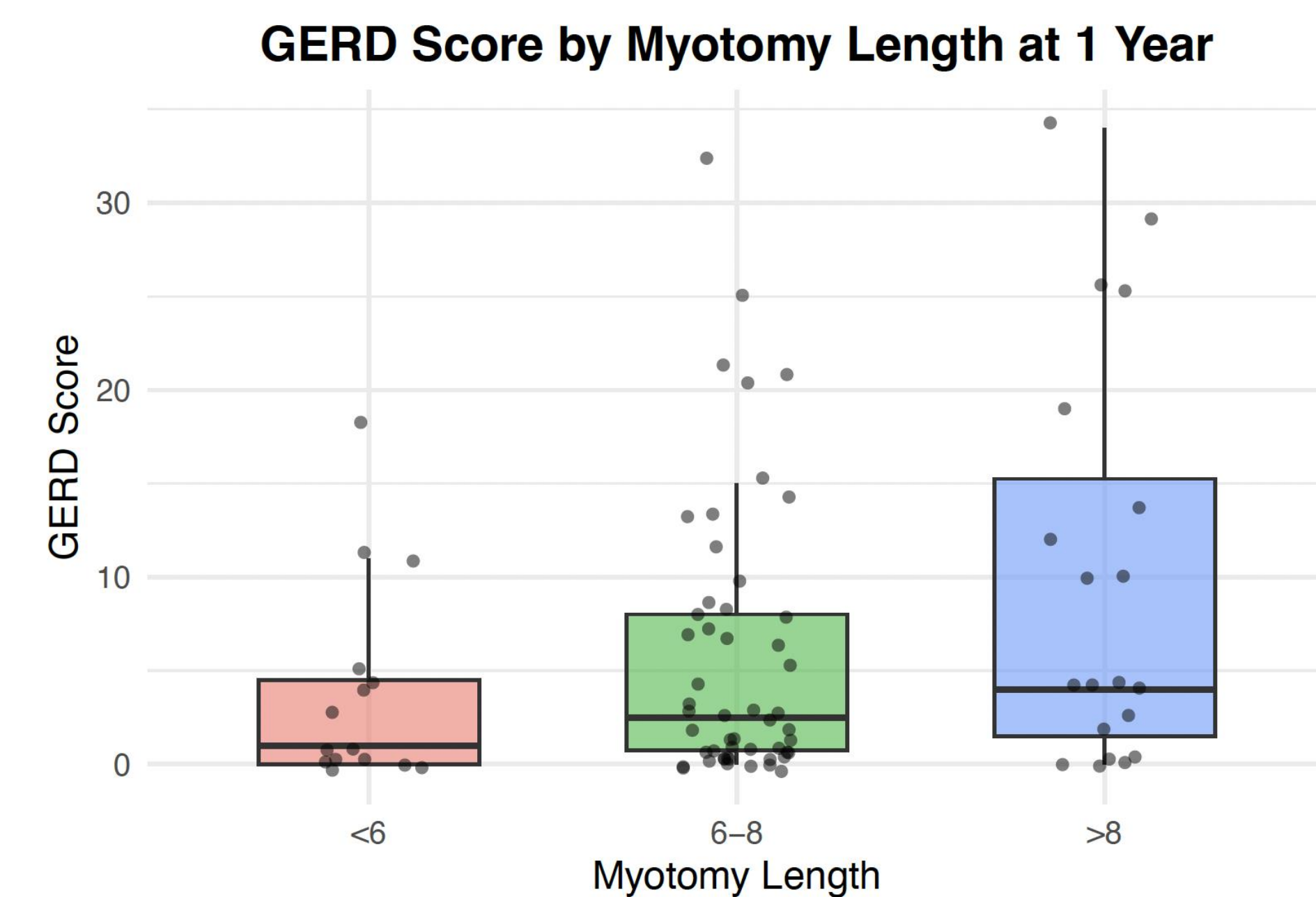


Figure 1. There was a positive association between myotomy length and GERD-HRQL score, with a statistically significant increase in score for myotomy >8 cm ($p<0.05$).

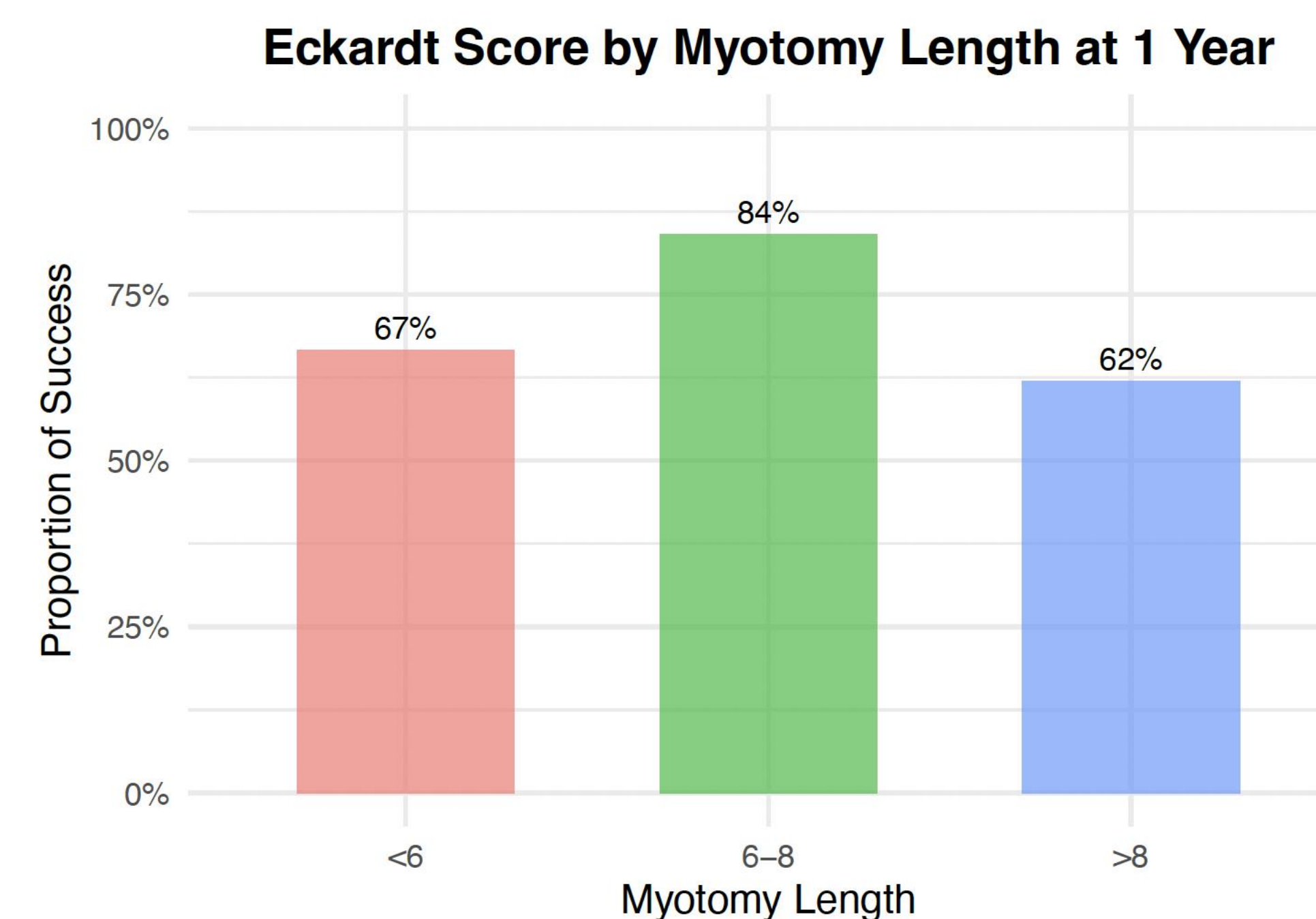


Figure 2. Proportion of success per myotomy length at 1 year, as defined by Eckardt score ≤ 3 . Compared to 6-8 cm, a myotomy length of >8 cm had statistically significant lower odds of success ($p<0.05$).

Results

- A shorter myotomy was associated with lower GERD-HRQL scores at 1 year
- Myotomy >8 cm had significantly lower odds of success (defined by Eckardt score ≤ 3) than 6-8 cm at 1 year
- No significant difference in need for additional procedures
- No statistical significance at 3 years

Conclusions

We performed a single institution retrospective cohort study of 203 patients post-POEM. After 1 year patients with a myotomy of >8 cm had higher symptom scores (GERD-HRQL and Eckardt) but a similar need for additional procedures. **A myotomy <8 cm may be superior for improving GERD and achalasia symptoms.** Additional studies with larger cohorts are needed to understand balancing reflux risk against therapeutic benefit.

References

1. Ghazaleh et al., *Annals of gastroenterology*. 2021.
2. Vespa. *Dis Esophagus*. 2024.
3. Shiwaku et al. *Endoscopy*. 2022.