Outcomes of Symmetrical Anterior Posterior Partial Fundoplication With and Without Angle of His Accentuation for Gastroesophageal Reflux Disease

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INTRODUCTION AND PURPOSE

At our institution we prefer to use a symmetrical partial anterior-posterior fundoplication oriented along the lesser curvature axis leaving the 9 O'clock area bare on the esophagus.

Traditionally we have identified the posterior fundoplication limb about 5 cm away from AOH and 2 cm posterior to the divided greater curvature vessels, marking it with a stitch to aid in bringing it behind the esophagus prior to finding the appropriate anterior limb and performing the *shoe shine* maneuver for appropriate wrap creation.

In 2021 we started placing a AOH accentuation stitches before the rotation of fundoplication limbs - this lays the posterior and anterior limb in the correct positions automatically and there is no need for marking stitch or *shoe shine* maneuver.

Hence, the purpose of this study is ti compare the perioperative and mid-term outcomes between partial fundoplication with or without AOH accentuation.

METHODS

Study design: single-center, retrospective, all patients who underwent primary elective partial fundoplication for GERD from September 2016—June 2025

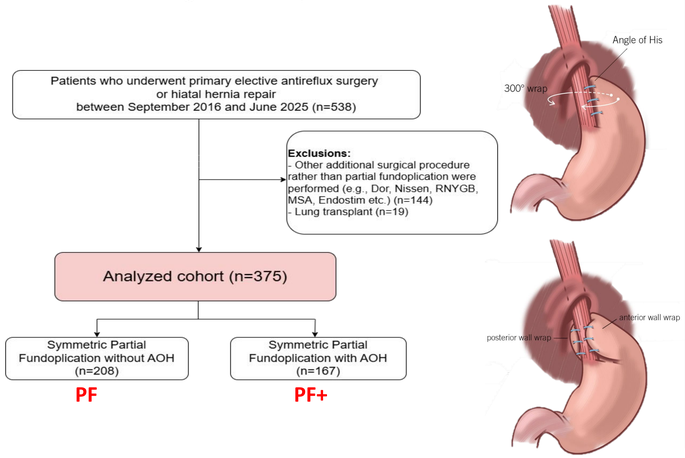
Exclusions: redo-procedures, non-selective surgery, perioperative lung transplant patient, non-GERD indications, and those who received other types of fundoplication (e.g., Dor, Nissen) or AOH fundoplasty alone.

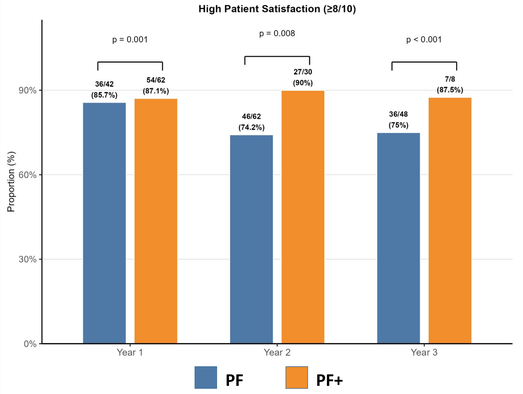
Outcomes: objective hiatal hernia recurrence, perioperative complication rates, and quality of life (GERD-HRQL).

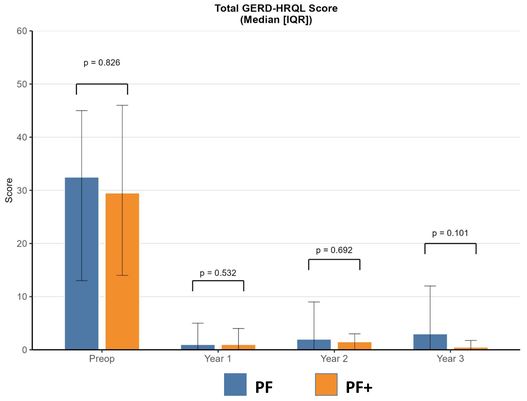
Symmetrical anterior posterior partial fundoplication technique

The key features of this surgical technique are listed below.

- ✔ After the hernia sac resection, posterior crural repair was undertaken with additional sutures placed anterior-laterally (2 O'clock) and anterior-medially (10 O'clock) as needed.
- ✔ As fundoplication, symmetric anterior and posterior 300° degee wrap with the bare area of the esophagus at lesser curvature side (9 O'clock) was created.
- ✔ The "AOH fundoplasty" was performed to accentuate the AOH before creating the fundoplication.







RESULTS

- ✔ Early postoperative complication rates (6.9% vs. 9.0%, *p*=0.59) were also similar.
- ✔ Objective recurrent hiatal hernia (i.e., >2 cm) noted by barium esophagram, endoscopy, or CT-scans at 1 year were 0/74 and 2/74 in the FP and FP+ groups, respectively (p= 0.44)
- ✔ Overall satisfaction rates (≥8/10) at 1 year (FP: 85.7% vs. FP+: 87.1%, *p*=1.0), 2 years (FP: 74.2% vs. FP+: 90%, *p*=0.14), and 3years (FP: 75% vs. FP+: 87.5%, *p*=0.75).
- ✔ The median total GERD-HRQL scores (FP group preop: 32.5 [IQR 13–45], 1-year: 1 [IQR 0–5], and 2-year: 2 [IQR 0–9]; FP+ group preop: 29.5 [IQR 14–46], 1-year: 1 [IQR 0–4] and 2-year: 1.5 [IQR 0–1.75])

CONCLUSION

Symmetric anterio-posterior-partial fundoplication with and without AOH accentuation are safe and effective for GERD

AOH incorporation facilitates correct fundoplication creation without compromising mid-term outcomes

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