P442: Laparoscopic Hiatal Hernia Repair: Insight From a High-Volume Center

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Background

- Surgical repair of hiatal hernias (HH) is indicated when a hernia becomes symptomatic.
- Laparoscopic-assisted surgery can be safely performed with good outcomes.
- Uncertainty exists regarding whether the size of the hiatal hernia can affects the outcomes.
- In this study, we sought to assess whether laparoscopic HH-repair of large hernias (L-HH) has comparable results with the treatment of small hernias (S-HH).

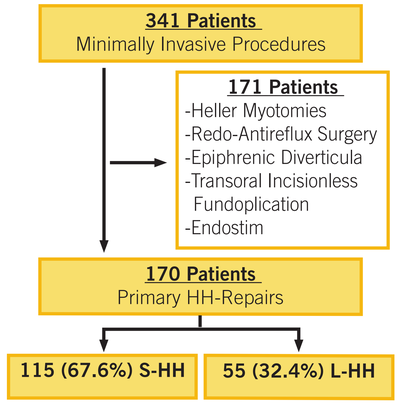
Material and Methods

- Approval by the Institutional Review Board was obtained.
- Our prospectively maintained database for esophageal benign diseases was queried.
- Data on patients who underwent primary minimally invasive HH repair between August 2016 and December 2019 was extracted.
- All procedures were performed by a single surgeon (SKM).
- Hernias were defined as follows:
  - S-HH = less then 50% of the stomach was herniated through the hiatus.
  - L-HH = at least 50% of the stomach was herniated through the hiatus.
- Data on preoperative assessment, surgical procedure, postoperative morbidity and mid-term follow-up were analyzed. Patients were followed up with the GERD-Health Related Quality of Life Questionnaires (GERD-HRQL).
- Continuous variables were reported as mean ± SD. Categorical variable were presented as absolute number and percentage. As indicated, Student's t-test or Mann-Whitney test were used to compare continuous variables. Categorical variables were compared with Fisher's exact test or χ^2-test. Statistical significance was set at p<0.05.



Results

Study Population



Pre-Operative Characteristics for for S-HH and L-HH

- Mean age was 60.6 ± 11.3 vs 71.6 ± 10.0 (p<0.001)
- Mean BMI (Kg/m^2) was 28.8 ± 4.6 vs 28.8 ± 6.9 (p=0.9)
- Male subjects were 32 (27.8%) and 13 (23.6%), while Female subjects were 83 (72.2%), and 42 (76.4%), (p=0.33)
- GERD-HRQL Score was 33.2 ± 18.6 vs 24.2 ± 18.0 (p=0.08)

Operative Results

	S-HH	L-HH	p value
Urgent OP (Incarceration)	0 (0%)	0 (0%)	**<0.001**
OP-time (Min.)	78.0 ± 25.0	98.8 ± 26.3	**<0.001**
Blood Loss (mL)	23.0 ± 15.0	35.1 ± 25.9	**<0.001**
Intra-OP Complications	3 (2.6%)	3 (5.5%)	0.30
Fundoplication performed	115 (100%)	51 (92.7%)	**<0.001**
Mesh (Bio-A)	36 (31.3%)	34 (61.8%)	**<0.001**
Esophageal length (cm)	2.4 ± 0.5	1.8 ± 0.7	**<0.001**

Type of Fundoplication

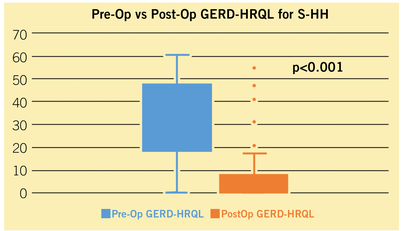
	S-HH	L-HH	p value
None	0 (0%)	4 (7.3%)	**0.01**
Toupet	112 (97.4%)	38 (69.1%)	**<0.001**
Nissen	1 (0.9%)	0 (0%)	>0.99
Angle of His Accentuation	2 (1.7%)	7 (12.7%)	**0.005**
Dor	0 (0%)	6 (10.9%)	**<0.001**

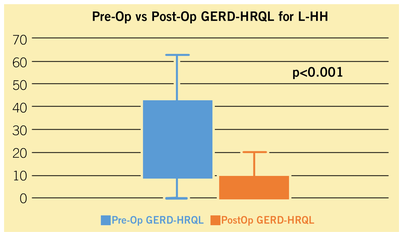
- All operations but one were performed laparoscopically: one patient with L-HH was converted to open-surgery due to adhesions

Post-Operative Results

	S-HH	L-HH	P value
Hospital Stay (Days)	1.5 ± 1.4	2.3 ± 2.2	**<0.001**
Complications	4 (3.5%)	12 (21.8%)	**<0.001**

- None of the patients treated died during the study period





Post-OP GERD-HRQL Score was available for 57 out of 115 (49.6%) and 12 out of 55 (21.8%) S-HH and L-HH patients, respectively. **Mean Scores** were 6.4 ± 11.7 and 5.2 ± 7.0 (p=0.9)

In total 43 out of 57 (76.8%) patients with S-HH and 9 out of 12 (75.0%) patients with L-HH (p=0.9) declared themselves as "satisfied" with the surgical outcome.

Conclusion

Laparoscopic HH repair is feasible and safe, but L-HH repair is more challenging and associated with longer OP-time, hospital stay and higher morbidity. However, comparable GERD-HRQL mid-term outcomes are achievable for both S-HH and L-HH, when treated by experienced hands.

Disclosure Statement: No author has any conflicts of interest to disclose related to the content of this abstract.