Recurrent Hiatal Hernia Repair Using a Robotic Platform

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Introduction

Primary hiatal hernia repair surgery:

- 24% failure rate[1]
- Reoperation recommended
- Minimally invasive laparoscopic surgery is safe and effective[2]
- Robotic assisted laparoscopic approach efficacy is unknown

Objective:

- To evaluate the feasibility of using robotic assisted laparoscopic approach for recurrent hiatal hernia repair

Method

Study type:

- Retrospective chart review

Subjects:

- All patients who underwent robotic assisted laparoscopic hiatal hernia repair surgeries in a multicentered health system from 4/2016 to 9/2022

Inclusion criteria:

- Patients who underwent robotic assisted laparoscopic reoperation for hiatal hernia recurrence after a previous repair

Exclusion criteria:

- History of esophagectomy, sleeve gastrectomy, or gastric bypass surgeries

Data collected:

- Preoperative symptoms and comorbidities
- Operative findings
- Outpatient follow up

Data

Patient Demographics	
Total Subjects (n)	30
Age (yrs)	61 (±9.6)
Gender (female)	63% (n=19)
Antacid medication use	24 (80%)
BMI (kg/m^2) at reoperation	29 (±5.2)

Results

Preoperative presentations

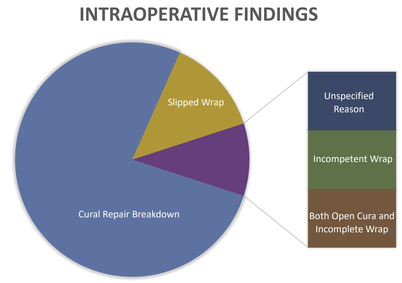
- Majority reported symptoms of reflux and dysphagia (83%, n=25 and 53%, n=16, respectively)

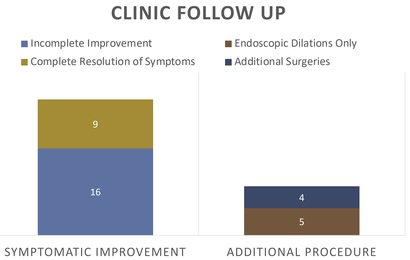
Operative findings

- Most common cause for hernia reoccurrence was breakdown of cural repair (77% n=23)
- Most common fundoplication revision procedures were Toupet (37% n=11), Nissen(30% n=9) , and keeping the previous fundoplication without additional wrap (23% n=7)
- Average operative time was 217 (± 59.0) minutes
- Average length of hospital stay was 3.0(± 2.7) days
- Two patients (7%) required reoperation during the same admission for repair failure, only one was unplanned

Outpatient findings

- Average postoperative follow up duration was 9.1 (±12) months
- 83% (n=25) had improvement of symptoms
- 42% (n=10) were liberated from antacid medications
- 30% (n=9) reported complete resolution
- 13% (n=4) had hernia recurrence after the redo repair requiring additional operations





Conclusions

- **Robotic assisted laparoscopic surgery is an excellent method for the repair of recurrent hiatal hernia**

- Although operative time was increased with this approach, there were:
  - No intraoperative complications
  - Zero conversions to open rate
  - Similar postoperative results when compared to laparoscopic redo hiatal hernia repair[2]

References

1. Tam V, Winger DG, Nason KS. A systematic review and meta-analysis of mesh vs suture cruroplasty in laparoscopic large hiatal hernia repair. Am J Surg. 2016 Jan;211(1):226-38. doi: 10.1016/j.amjsurg.2015.07.007. Epub 2015 Sep 18. PMID: 26520872; PMCID: PMC5153660.

2. van Beek DB, Auyang ED, Soper NJ. A comprehensive review of laparoscopic redo fundoplication. Surg Endosc. 2011 Mar;25(3):706-12. doi: 10.1007/s00464-010-1254-0. Epub 2010 Jul 27. PMID: 20661749.

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