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Surgical Management of Gastro esophageal Reflux Disease (GERD): Comparing Laparoscopic Techniques"

## **Surgical Management Of Gastro Esophageal Reflux Disease (GERD): Comparing Laparoscopic Techniques"**

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### **Abstract**

**Background :** Gastro esophageal reflux disease, commonly known as GERD, suffers many Patients through the retrograde movement of gastric contents into the esophagus, causing manifestations and if possible complications left untreated. While lifestyle modifications and anti reflux medications are generally employed for symptom alleviation, surgical procedures, notably minimally invasive methods, have emerged as a highly effective option for patients refractory to other interventions. Understanding postoperative outcomes and indicators of recovery is paramount for optimizing GERD management approaches.

### **Objectives:**

to assess remedial consequences and pinpoint determinants predictive of postoperative convalescence in patients undergoing laparoscopic surgery for gastro esophageal reflux diseases. By analyzing demographic particulars and operative interventions, we seek to guide evidence-based management in GERD.

**Study design:** A Retrospective Study.

**Place and duration of study.** Department of general surgery LRH Peshawar from 1<sup>st</sup>Jan 2018 to 1<sup>st</sup>July 2018 Peshawar Pakistan.

### **Methods:**

This retrospective analysis interpreted information from two hundred and fifty patients who underwent laparoscopic surgery for gastro esophageal reflux disease. Electronic health records from a designated period were reviewed to accumulate demographic specifics, surgical minutiae, and subsequent results. Statistical analysis, like calculating typical age, standard deviation, and p-values, were performed to compare age distribution between patients who recovered and those who did not. Ethical endorsement was obtained prior to initiating the study. This methodology permitted appraisal of demographic attributes and remedial outcomes in a cohort of patients undergoing laparoscopic GERD surgery.

### **Results:**

There was variation in the age distribution among the 250 patients included in the study, with a median age of 49.8 years and a standard deviation of 11.5 years. A statistical study showed that there was a significant difference ( $p < 0.05$ ) in the age distribution of patients who recovered following GERD surgery compared to those who did not. Those who recovered had an average age

of 47.3 years, whereas those who did not recover had an average age of 56.2 years. After GERD surgery, seventy-five percent of the patients recovered well, but 25 percent of the patients did not recover throughout the follow-up period. While stressing the need for more study to determine factors impacting postoperative results in GERD therapy and predictors of surgical success, these data show the usefulness of laparoscopic procedures in attaining favorable outcomes in the majority of patients.

### Conclusion

This study shows that laparoscopic surgery can be successful for the majority of GERD patients. More study is required to identify the variables influencing postoperative recovery and to enhance treatment strategies for Patients who do not heal.

**Keywords:** Laparoscopic surgery, GERD, Treatment outcomes, Recovery

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### Introduction:

Chronic gastro esophageal reflux disease (GERD) is characterized by the reflux of stomach contents up the esophagus, resulting in uncomfortable symptoms such as regurgitation, heartburn, and chest discomfort (1). Around the world, a sizable portion of Patients find it bothersome. There are notable variations in the percentage of people afflicted with this illness between different age groups as well as between districts (2). Barrett's esophagus, esophagitis, stricture development, and esophageal cancer are all possible outcomes of long-term GERD (3). While lifestyle modifications and medication alleviate mild to moderate symptoms of gastric reflux disease (GERD), some Patients experience resistant symptoms or unpleasant side effects from treatment (4). In certain cases, managing the condition and controlling the symptoms may include surgical intervention. Nowadays, GERD patients are turning to laparoscopic anti-reflux surgery, which includes techniques like Nissen fundoplication and Toupet fundoplication, as a less intrusive method of treatment (5). Rudolf Nissen initially reported the Nissen fundoplication in 1956. Its goal is to prevent reflux by creating a complete fundus wrap around the lower esophagus and tightening a portion of the stomach sphincter muscle (6). Toupet originally described Toupet fundoplication in 1963. It is merely a partial wrap that is limited to avoiding reflux; this may be required since Patients frequently develop dysphagia following surgery (7). Laparoscopic ant reflux surgery has been shown in several trials to dramatically alleviate GERD symptoms (8,9). However, there are other surgical approaches, and each has its own standards for choosing patients and for postoperative care. Because various institutions and clinicians have diverse practices, treatment outcomes also varied (10). Even with the increasing popularity of minimally invasive laparoscopic surgery for GERD, there are still concerns about the optimal technique to utilize, the extent to which symptoms may be relieved after surgery, and which Patients would recover the best. This indicates that more Study is required to determine what elements. It looks at factors that influence patients receiving care at our facility to recover after surgery. We aim to provide significant insights for the current geriatric therapy of GERD patients in evidence-based practices by examining the demographic features, surgical details, and postoperative results of 499 patients receiving laparoscopic antireflux surgery.

**Methods:**

We examined data from 250 Patients who had laparoscopic surgery to treat gastro esophageal reflux disease, or GERD, for this retrospective analysis. To get surgery specifics, postoperative results, and demographic data, medical records were carefully examined. Using SPSS version 16.0, statistical analysis was carried out. Metrics like mean age and standard deviation were calculated before comparing the distributions of Patients who succeeded and failed to recover.

**Data Collection**

this retrospective Study, we looked at data from 250 patients who underwent laparoscopic surgery to treat gastro esophageal reflux disease, or GERD. Medical records were thoroughly reviewed to get information about demographics, postoperative outcomes, and specifics of the procedure. SPSS version 16.0 was used for statistical analysis. The distributions of those who recovered and those who did not were compared after metrics such as mean age and standard deviation were computed.

**Statistical Analysis**

SPSS version 16.0 was used to evaluate the data. For continuously fluctuating variables, such as age, descriptive statistics like mean and deviation from the norm were tallied. To compare demographic traits and remedial outcomes between subclasses, inferential statistics like t-tests or chi-square tests were used, with significance set at  $p < 0.05$ .

**Results:**

The mean age of the 250 patients was 49.8 years, with an 11.5-year deviation. There was a significant difference in the age distribution of Patients who recover compared to those who do not ( $p < 0.05$ ). The average age of Patients who made a full recovery was 47.3 years, whereas that of those who did not. After GERD surgery, three quarters of the patients, or 75%, recovered well, whereas the remaining 25% did not improve at follow-up. These findings demonstrate the effectiveness of laparoscopy in restoring function for the majority of patients, but they also emphasize the need for further research to identify factors that predict surgical success and impact postoperative outcomes in the treatment of GERD.

**Table 1: Demographic Characteristics**

Parameter	Value
Total Patients	250
Mean Age (years)	49.8
Standard Deviation	11.5
Gender Distribution	
Male	130 (52%)
Female	120 (48%)

**Table 2: Surgical Details**

Surgical Procedure	Number of Patients
Nissan Fundoplication	150
Toupet Fundoplication	100

**Table 3: Postoperative Outcomes**

Outcome	Number of Patients
Successful Recovery	188
No Recovery	62

**Table 4: Comparison of Age Distribution**

Outcome	Mean Age (years)	Standard Deviation
Successful Recovery	47.3	10.2
No Recovery	56.2	12.4

**Table 5: Complications**

Complication	Number of Patients
Dysphagia	30
Reflux Recurrence	20
Surgical Site Infection	15
Pneumothorax	5

**Discussion:**

This study not only validates the safety and effectiveness of bypass surgery in treating gastro esophageal reflux disease (GERDs), but it also provides important information about what happens following surgery. By assessing treatment outcomes and forecasting recovery patterns from 250 patients undergoing laparoscopic antireflux surgery, we add to this body of information. The current study supports earlier research by highlighting how effective laparoscopic technology is in helping the majority of GERD patients achieve positive results. The survey's mean age of 49.8 years is consistent with findings by Wang SK and colleagues (12), who demonstrate that GERD patients undergoing surgery varied widely in age. But the age distribution of those patients shows a clear disparity. Our study shows that younger patients had a higher chance of landing on their feet following surgery. It should be mentioned that males made up 52% of the patients in our study. This is in line with findings from other studies regarding the greater incidence of GERD in males (3) The operation's specifics reveal that there were much

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more Nissanfundoplication's (60%) than Toupet fundoplication's (40%); this arrangement reflects our hospital's predilection for total fundoplication procedures. This result is in line with data from other locations indicating that the Nissan or Toupetfundoplication are equally successful at managing reflux symptoms(13).The significance of postoperative care and management in maximizing surgical outcomes is further highlighted by our research. The reported 75% recovery rate is in line with the literature's findings that laparoscopic antireflux surgery has a good success rate (14). However, the occurrence of postoperative problems like dysphagia and reflux recurrence alerts us to the necessity of keeping an eye on patients and teaching them preventative measures. Age may be a predictor of surgery recovery from GERD, as evidenced by the study of the age distribution of patients who have recovered and those who have not. Younger people are likely to have better results than older patients because they may have greater physiological capacity and responses to a surgical intervention(15).

### Conclusion

By shining light on the treatment outcomes and recovery predictions for patients following laparoscopic surgery for GERD, our work contributes significantly to the body of current research. While our results validate the effectiveness of laparoscopic techniques in attaining favorable results, further Study is required to comprehend the impact of age and other variables on postoperative recuperation and to enhance surgical approaches for managing Patients with GERD.

**Disclaimer:** Nil

**Conflict of Interest:** There is no conflict of interest.

**Funding Disclosure:** Nil

#### Authors Contribution

**Viqar Aslam:** Concept & Design of Study:

**Muhammad Bilal:** Drafting:

**Raza Ullah:** Data Analysis:

**Waqar Alam Jan, Muhammad Ayaz,Alina Zaidi:** Revisiting Critically:

**Viqar Aslam:** Final Approval of version:

### References:

1. Kahrilas PJ. "GERD pathogenesis, pathophysiology, and clinical manifestations." Cleveland Clinic Journal of Medicine. 2003 May 1;70(suppl 5):S4-19.

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2. El-Serag HB, Sweet S, Winchester CC, Dent J. "Update on the epidemiology of gastro-oesophageal reflux disease: a systematic review." *Gut*. 2014 Jun 1;63(6):871-80.
3. Rubenstein JH, Taylor JB. "Meta-analysis: the association of oesophageal adenocarcinoma with symptoms of gastro-oesophageal reflux." *Alimentary Pharmacology & Therapeutics*. 2010 Jan;32(10):1222-7.
4. Katz PO, Gerson LB, Vela MF. "Guidelines for the diagnosis and management of gastroesophageal reflux disease." *American Journal of Gastroenterology*. 2013 Mar;108(3):308-28.
5. Spechler SJ, Lee E, Ahnen D, Goyal RK, Hirano I, Ramirez F, Raufman JP, Sampliner R, Schnell T, Sontag S, Vlahcevic ZR. "Long-term outcome of medical and surgical therapies for gastroesophageal reflux disease: follow-up of a randomized controlled trial." *JAMA*. 2001 May 9;285(18):2331-8.
6. Nissen R. "Eine einfache operation zurbeeinflussung der refluxoesophagitis." *Schweizerische Medizinische Wochenschrift*. 1956 Dec;86(48):1260-5.
7. Toupet A. "Technique d'oesophagoplastie avec phrénoglyse pour traitement des hernies hiatales. (Technique de l'oesophagopexie)." *Lyon Chirurgical*. 1963;59:282-9.
8. Grant AM, Wileman SM, Ramsay CR, Mowat NA, Krukowski ZH, Heading RC, Thursz MR, Campbell MK, Group REFLUX Trial. "Minimal access surgery compared with medical management for gastro-oesophageal reflux disease: five year follow-up of a randomised controlled trial (REFLUX)." *BMJ*. 2013 Nov 6;347:f5143.
9. Mahon D, Rhodes M, Decadt B, Hindmarsh A, Lowndes R, Beckingham I, Koo B, Newcombe RG. "Randomized clinical trial of laparoscopic Nissen fundoplication compared with proton-pump inhibitors for treatment of chronic gastro-oesophageal reflux." *British Journal of Surgery*. 2005 Feb;92(2):695-9.
10. Wijarnpreecha K, Chokesuwattanaskul R, Jaruvongvanich V, Ungprasert P. "Comparative effectiveness of surgical and medical therapy for gastroesophageal reflux disease: A systematic review and network meta-analysis." *Surgical Endoscopy*. 2017 May;31(5):1915-24.
11. Campos GM, Peters JH, DeMeester TR, Oberg S, Crookes PF, Tan S, et al. "Multivariate analysis of factors predicting outcome after laparoscopic Nissen fundoplication." *Journal of Gastrointestinal Surgery*. 1999;3(3):292-300.
12. Gill TS, Walsh TN, Taylor WF, Hennessy TP. "Laparoscopic Nissen fundoplication: five-year results and beyond." *British Journal of Surgery*. 1998;85(3):342-5.
13. El-Serag HB, Sweet S, Winchester CC, Dent J. "Update on the epidemiology of gastro-oesophageal reflux disease: a systematic review." *Gut*. 2014;63(6):871-80.
14. Cadière GB, Himpens J, Bruyns J, Germain O, Favretti F. "Laparoscopic Nissen fundoplication: technique and preliminary results." *British Journal of Surgery*. 1994;81(7):1164-7.
15. Hunter JG, Trus TL, Branum GD, Waring JP, Wood WC. "A physiologic approach to laparoscopic fundoplication for gastroesophageal reflux disease." *Annals of Surgery*. 1996;223(6):673-85.

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