Reinforcement of the Esophageal Hiatus Using Ligamentum Teres During SG: Outcomes Regarding Gastroesophageal Reflux Disease and Hiatal Hernia

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Introduction

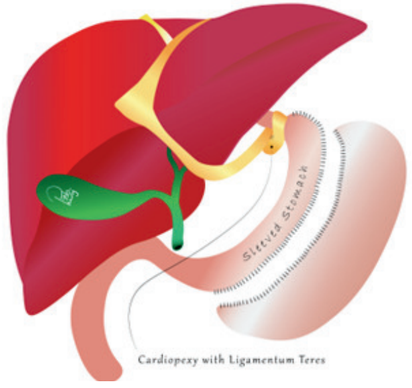
LSG is a surgery that involves removal of 75–80% of the stomach. It offers benefits like less postoperative pain and better recovery compared to open surgery but it also carries the risk of developing GERD and hiatus hernia.

AIM

To evaluate the effectiveness of Ligamentum Teres Reinforcement (LTR) during laparoscopic sleeve gastrectomy (LSG) in reducing postoperative gastroesophageal reflux disease (GERD) symptoms and hiatal hernias. The study compares outcomes between patients undergoing standard LSG and those receiving LTR.

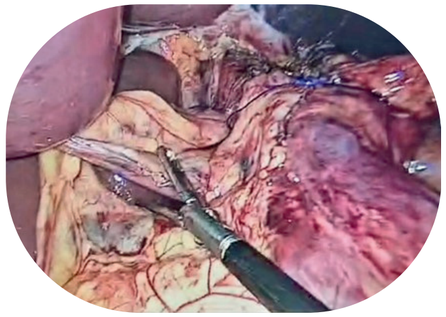
Method

This retrospective study included a group of patients who underwent LSG, divided into two groups: Group A, which contained 30 patients who received LSG without Ligamentum Teres Reinforcement (LTR), and Group B, with 30 patients, who underwent LSG with the additional LTR procedure.

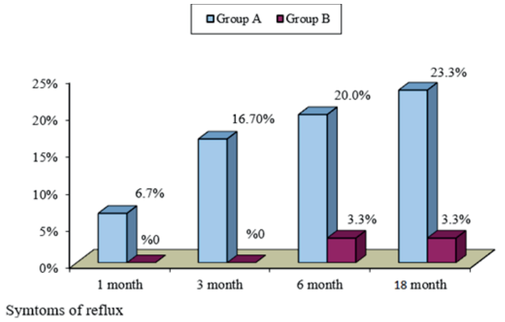


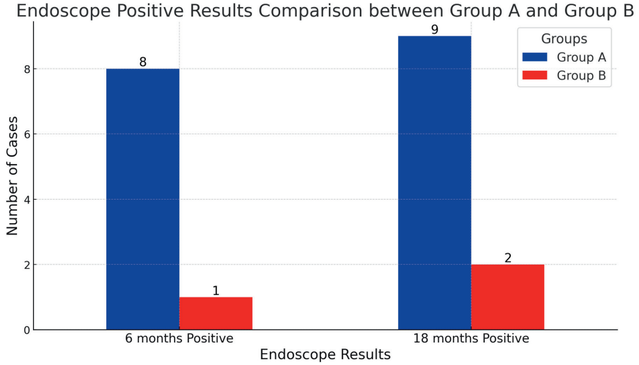
Results

Group A experienced more postoperative reflux symptoms than Group B over time, with significant differences emerging at 3, 9, and 18 months. Endoscopic observations at 6 and 18 months confirmed higher reflux rates in Group A (26.7% and 30%) compared to Group B (3.3% and 6.7%), highlighting the advantage of Group B's ligamentum teres reinforcement technique.



SG with reinforced GEJ using ligamentum teres.





	Group A N=30	Group B N=30	Test of significance
Hiatus Hernia Occurrence	3(10.0%)	1(3.3%)	FET =1.07 P=0.300
Mean Hernia Size (Mean ± SD) Min-Max	2.5 ± 0.8 1.5-4.0	1.2±0.0 1.2-1.2	t=8.90 P<0.001*

comparison of hiatus hernia incidence and size between studied groups

Comparison of hiatus hernia incidence and size between two groups: Group A (sleeve gastrectomy only) and Group B (sleeve gastrectomy with LTR). The incidence of hiatus hernia was higher in Group A (10.0%) compared to Group B (3.3%), although this difference was not statistically significant (Fisher's exact test, P=0.300). However, the mean size of the hernia was significantly larger in Group A (2.5 ± 0.8 cm) than in Group B (1.2 ± 0.0 cm), with the student t-test showing a highly significant difference (P<0.001)

Conclusion

The incorporation of LTR during LSG may offer significant benefits in reducing postoperative complications, particularly GERD and the occurrence of hiatal hernias. Patients who underwent LSG with LTR exhibited lower rates of GERD symptoms and a reduced incidence of hiatal hernias compared to those who had the standard LSG procedure without reinforcement.

References

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Acknowledgements

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