

Implementation of Enhanced Recovery after Surgery (ERAS) Protocols in Laparoscopic Sleeve Gastrectomy (LSG); A Systematic Review and Meta-analysis

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Abstract : Introduction: Bariatric surgery is the most effective treatment for patients suffering from morbid obesity. Laparoscopic sleeve gastrectomy (LSG) accounts for over 50% of total bariatric procedures. The aim of our meta-analysis is to investigate the effectiveness and safety of Enhanced Recovery After Surgery (ERAS) protocols for patients undergoing laparoscopic sleeve gastrectomy. Method: To gather data, we searched PubMed, Google Scholar, ScienceDirect, and Cochrane Central. Eligible studies were randomized controlled trials and cohort studies involving adult patients (≥ 18 years) undergoing bariatric surgeries, i.e., Laparoscopic sleeve gastrectomy. Outcome measures included LOS, postoperative narcotic usage, postoperative pain score, postoperative nausea and vomiting, postoperative complications and mortality, emergency department visits and readmission rates. RevMan version 5.4 was used to analyze outcomes. Results: Three RCTs and three cohorts with 1522 patients were included in this study. ERAS group and control group were compared for eight outcomes. LOS was reduced significantly in the intervention group ($p=0.00001$), readmission rates had borderline differences ($p=0.35$) and higher postoperative complications in the control group, but the result was non-significant ($p=0.68$), whereas postoperative pain score was significantly reduced ($p=0.005$). Total MME requirements became significant after performing sensitivity analysis ($p= 0.0004$). Postoperative mortality could not be analyzed on account of invalid data showing 0% mortality in two cohort studies. Conclusion: This systemic review indicated the effectiveness of the application of ERAS protocols in LSG in reducing the length of stay, post-operative pain and total MME requirements postoperatively, indicating the feasibility and assurance of its application.

Keywords : eras protocol, sleeve gastrectomy, bariatric surgery, enhanced recovery after surgery

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