

Enhanced Recovery After Surgery (ERAS) After Pancreatectomy: Furthering Outcomes at an ERAS Qualified Pancreatectomy Center

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Introduction

ERAS pathways have not been widely adopted in pancreas surgery.¹⁻⁴ We evaluated perioperative pancreatectomy outcomes before and after implementation of ERAS program at a tertiary ERAS Qualified Center.

Methods

Patients undergoing elective pancreatectomy for benign and malignant indications between 2020-2023 were evaluated via a retrospective review of a prospectively maintained database. Data was maintained via the ERAS Interactive Audit System (EIAS) developed by Encare based on ERAS Society's best practice recommendations. ERAS in an institutionally funded program supported by physicians and nurses who underwent ERAS training by the international ERAS coaching team. Statistical analysis was performed using Microsoft Excel and SPSS.

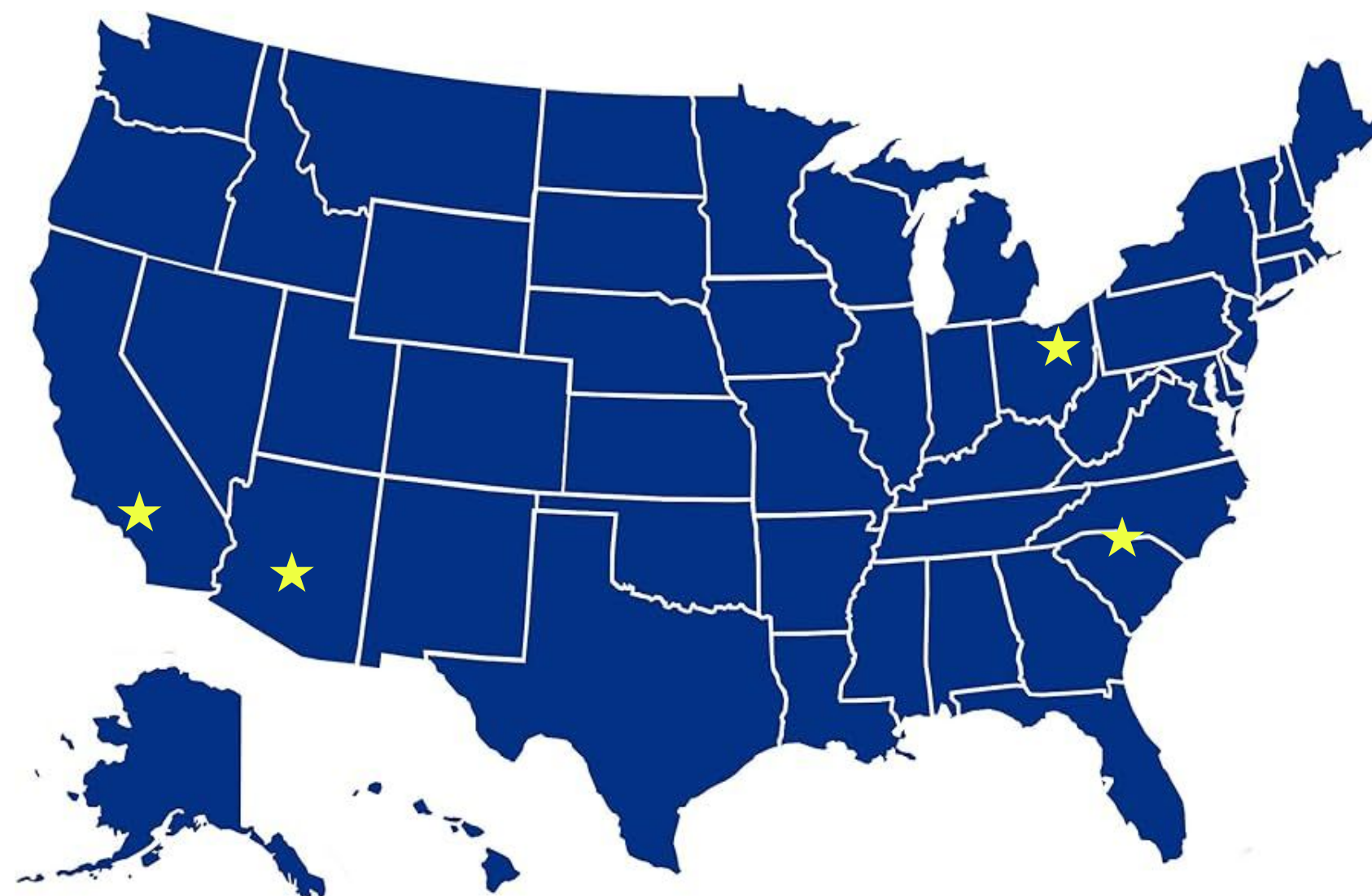


Figure 1. ERAS Qualified Centers in the United States⁵: Atrium Health's Carolinas Medical Center; Mayo Clinic Arizona; Kaiser Permanente Los Angeles Medical Center; University Hospitals of Ohio, Cleveland

Results

Of 126 pancreatectomy patients, 83 were treated within the ERAS program, and 43 were treated prior to the introduction of ERAS. Average age was 60.4 years (range 18-83), and 46% were men. 76 (60.3%) patients underwent pancreaticoduodenectomy and 50 (39.7%) underwent distal pancreatectomy. Most common diagnosis was adenocarcinoma (75.4%). Between the pre-ERAS and ERAS cohorts, there were no significant differences in patient characteristics, the use of neoadjuvant therapy, extent of resection, concurrent other surgeries, or pathology (benign v. malignant).

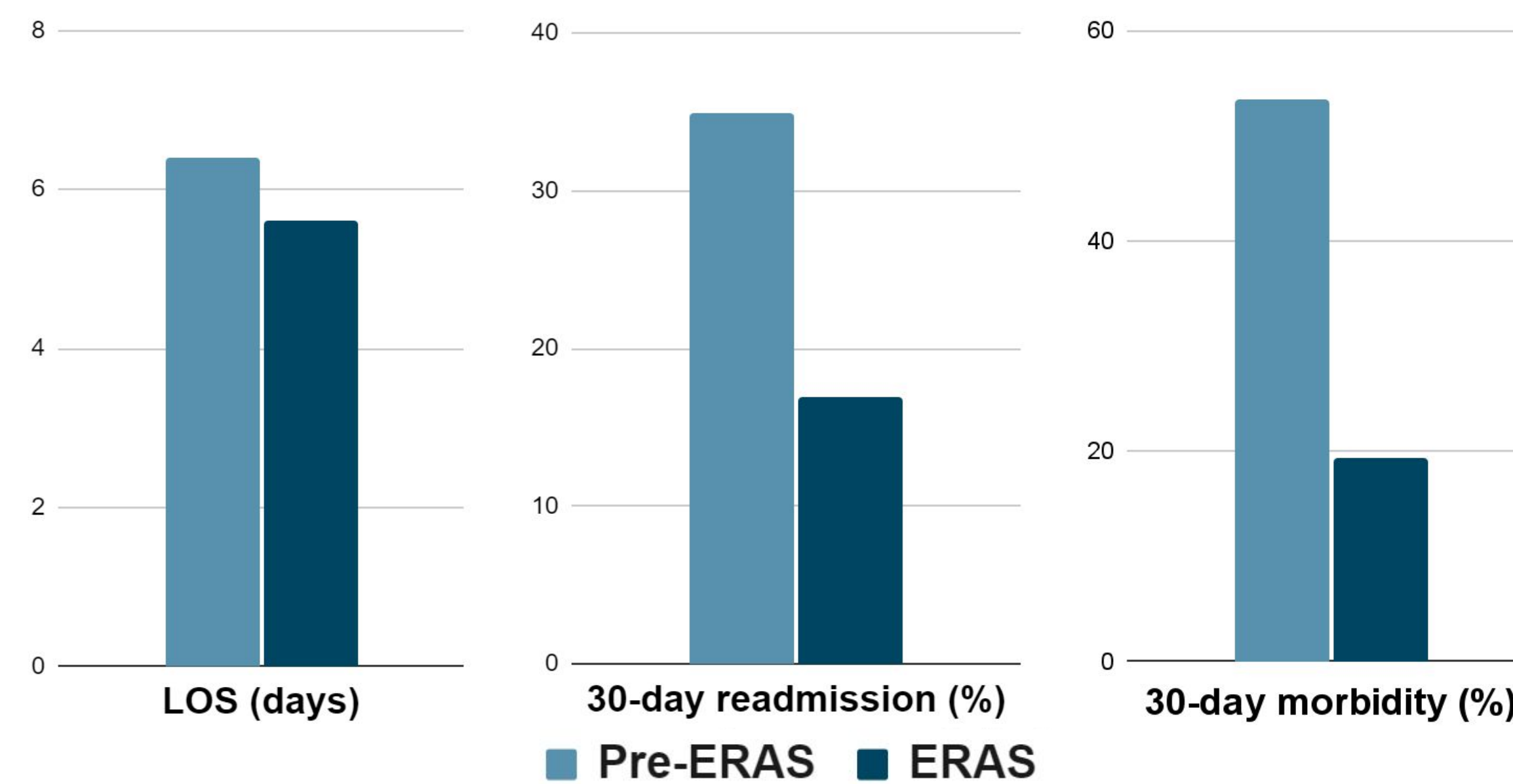


Figure 2. Comparison of all-cohort perioperative outcomes

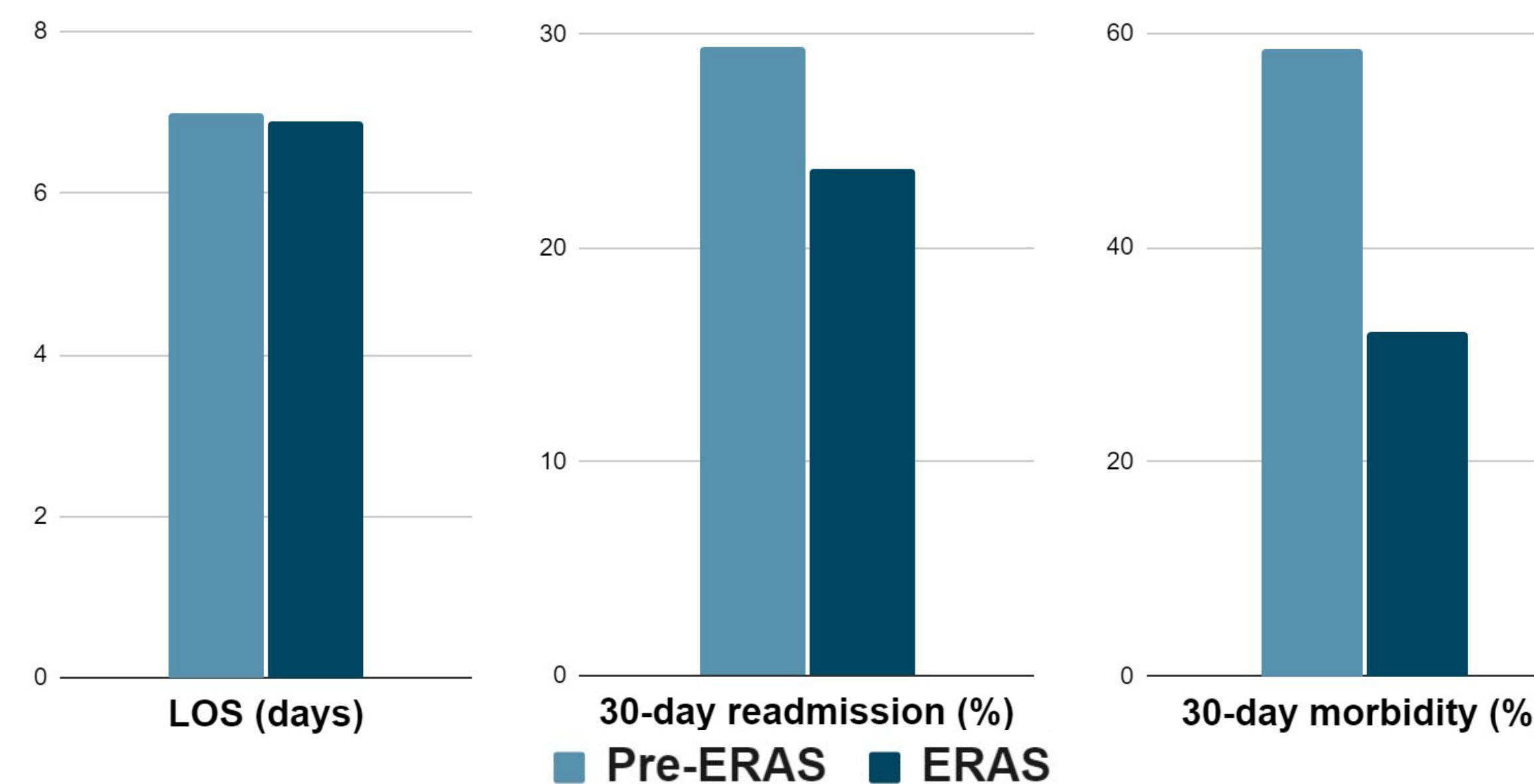


Figure 3. Comparison of open pancreaticoduodenectomy perioperative outcomes

Discussion

Overall, ERAS patients had decreased LOS ($p=0.003$), lower 30-day readmission rate ($p=0.022$) and reduced 30-day morbidity ($p=0.0008$) (**Figure 2**). Minimally invasive approach was used more frequently in ERAS patients.

In the open pancreaticoduodenectomy cohort, ERAS patients had reduced all 30-day morbidity (32.2% v. 58.5%, $p=0.046$) (**Figure 3**). There was no significant difference in LOS and 30-day readmission. This may indicate that even with the inherent higher morbidity of open surgery, benefits of ERAS implementation were sustained.

Conclusion

Compliant implementation of ERAS pathways utilizing a dedicated ERAS team results in improved patient outcomes after pancreatectomy.

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