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ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL FOR PEPTIC ULCER PERFORATION: A SYSTEMATIC REVIEW AND META ANALYSIS

**Society:** SSAT**Track:** Biliary Tract Diseases**Author(s) and Affiliation(s):**

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**Introduction**

Peptic Ulcer Perforation (PUP) is a life threatening condition which requires immediate surgical intervention. The post operative morbidity and mortality rate are 20% and 18.2% respectively, mainly attributed to surgical site infections, multiorgan failure and pneumonia. This emphasizes the need for a comprehensive protocol to augment recovery and reduce the length of hospitalization, morbidity and mortality. We seek to compare and analyze the components of protocols used for enhanced recovery in use currently and provide guidelines to design an optimal protocol for enhanced recovery after surgery for peptic ulcer perforation.

**Methods**

A systematic search was conducted in major medical databases to identify articles which compared enhanced recovery after surgery (ERAS) protocols and conventional management.

The statistical analysis was conducted in R-Studio. The primary outcome analysed was the difference in the mean duration of Hospital stay post-surgery between the control group and the ERAS protocol group, multiple secondary outcomes were evaluated which included parameters that assessed time from surgery to return to normal bowel activity and post-surgical complications. The data was analysed using R studio. The studies were subgrouped based on the location of the Ulcer and outcomes assessing differences in duration, the Mean difference between the 2 groups was evaluated using the Inverse variance method. The risk of complications was assessed using the Mantel-Haenszel and the Inverse variance method. The heterogeneity of the studies was evaluated by the I<sup>2</sup> Test.

**Results**

The meta-analysis conducted included 9 studies with 441 subjects on the ERAS protocol and 2320 patients as controls. The results indicated a significantly shortened length of hospital stay (Mean difference in PU subgroup = -1.5972 [-5.1813; 1.9868; 95% CI ; p < 0.05] and DU group -3.5315 [-4.2434; -2.8197; 95% CI ; p<0.05]), accelerated gastrointestinal recovery ( Mean difference of time to return to normal bowel activity, first fluid intake and solid food (-0.88; 95%CI ; p<0.05), (-2.03; 95% CI ; p<0.05) and (-2.37; 95%CI; p<0.05) respectively) and reduced risk of complications ie; Surgical site Infections(RR=0.55;95%CI;p=0.90) and Pulmonary complications(RR=0.39; 95% CI; p=0.89)

**Conclusion**

Peptic Ulcer Perforation managed through surgery followed by Enhanced Recovery After Surgery protocol demonstrate accelerated healing and reduced complications. We identified improvement in several outcomes like significant decrease in length of hospital stay and rapid gastrointestinal recovery including lesser time to return to normal bowel activity and faster restoration of fluid and solid intake. Risk of complications was substantially lowered indicating decreased episodes of surgical site infections and pulmonary complications.

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Sravani Bhavanam

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