

INPLASY PROTOCOL

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None declared.

The effect of the enhanced recovery after surgery program on radical cystectomy: A meta-analysis and systematic review

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Review question / Objective: Bladder cancer (BCa) is the ninth most common malignant tumor worldwide. As an effective evidence-based multidisciplinary protocol, The enhanced recovery after surgery (ERAS) program is practiced in many surgical disciplines. However, the function of ERAS after radical cystectomy remains controversial. This systematic review and meta-analysis aimed to research the impact of ERAS on radical cystectomy.

Condition being studied: A systematic literature search of PubMed, EMBASE, SCOPUS and the Cochrane Library databases till April 2022 was conducted to identify the studies that performed ERAS program in the radical cystectomy

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 May 2022 and was last updated on 12 May 2022 (registration number INPLASY202250075).

INTRODUCTION

Review question / Objective: Bladder cancer (BCa) is the ninth most common malignant tumor worldwide. As an effective evidence-based multidisciplinary protocol, The enhanced recovery after surgery (ERAS) program is practiced in many surgical disciplines. However, the function of ERAS after radical cystectomy remains controversial. This systematic review and meta-analysis aimed to research the impact of ERAS on radical cystectomy.

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METHODS

Participant or population: Patients with radical cystectomy.

Intervention: patients with radical cystectomy conducted with ERAS.

Comparator: patients with radical cystectomy conducted with non-ERAS.

Study designs to be included: retrospective study, prospective study, RCT.

Eligibility criteria: (I) P: patients with bladder cancer and undergoing radical cystectomy (laparoscopic radical cystectomy, open radical cystectomy and robot-assist radical cystectomy), (II) I: involved patients who received an ERAS program (we recognized totals of 23 elements, 22 elements were confirmed from the guideline and 1 from a study of ERAS updates, encompassing all phases of perioperative care [pre-, intra-, and postoperative], (III) the ERAS program included 8 elements at least that covered at least 2 phases of perioperative care, (IV) C: include a traditional control group (non-ERAS) with at least 3 fewer elements than ERAS, (V) O: reported at least 1 of outcome measures that we interest and (VI) written in English.

Information sources: A systematic literature search of PubMed, EMBASE, SCOPUS and the Cochrane Library databases.

Main outcome(s): Length of hospital stay; time to first flatus, passage of first stool, normal diet, bowel movement and ambulation; overall complication; transfusion rate and mortality.

Quality assessment / Risk of bias analysis: Quality of included cohort studies were assessed by Newcastle-Ottawa Quality Assessment Scale (NOS) . The Cochrane risk-of-bias tool, which is in Review Manager software (<https://training.cochrane.org/online-learning/core-software/revman/revman-5-download>), was used to evaluate the quality of RCTs.

Strategy of data synthesis: The risk ratio (RR) with 95% confidence interval (CI) was used to evaluate the effects ERAS

protocols on dichotomous data. For continuous variables, the standardized mean difference (SMD) with 95% CI was served as the appropriate statistics. All statistical analyses were conducted using the Review Manager software (RevMan version 5.3, the Nordic Cochrane Center, the Cochrane Collaboration, 2014) and Stata (version 14; StataCorp LLC, College Station, TX, USA).

Subgroup analysis: All statistical analyses were conducted using the Review Manager software (RevMan version 5.3, the Nordic Cochrane Center, the Cochrane Collaboration, 2014).

Sensitivity analysis: We conducted sensitivity analysis by omitting individual studies sequentially. According to the meta-analysis of each group, the aggregated OR of the remaining studies did not exceed the estimated range.

Country(ies) involved: China.

Keywords: Enhanced recovery after surgery (ERAS); radical cystectomy; bladder cancer; systematic review; meta-analysis.

Contributions of each author:

Author 1 - Yongheng Zhou - Established search strategy, data collection, literature screening, statistical analysis, literature drafting.

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