INPLASY PROTOCOL

To cite: Xu et al. Impact of enhanced recovery after general surgery protocols versus standard of care on postoperative acute kidney injury(AKI): a systematic review and meta-analysis. Inplasy protocol 2021110016. doi: 10.37766/inplasy2021.11.0016

Received: 04 November 2021

Published: 05 November 2021

Corresponding author:
Linjuan Xu

ery_xulj@lzu.edu.cn

Author Affiliation:
Lanzhou University Second Hospital.

Support: **21JR7RA407; CXPJJH118000017-0.**

Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
None declared.

Impact of enhanced recovery after general surgery protocols versus standard of care on postoperative acute kidney injury(AKI): a systematic review and meta-analysis

Xu, L[1]; Zhou, B[2]; Li, Y[3]; Wang, Y[4]; Xie, J[5].

Review question / Objective: **We aimed to compare the effects of enhanced recovery after surgery (ERAS)protocols and standard of care on postoperative acute kidney injury(AKI) undergoing general surgery.**
Condition being studied: **Enhanced recovery after general surgery (ERAS) protocols and postoperative acute kidney injury(AKI).**
Information sources: **Electronic databases Sources: PubMed, EMBASE, Web of Science , Cochrane Database of Systematic Reviews. Search all references included in the article. Grey literature: For grey literature, contact the researcher by letter.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 November 2021 and was last updated on 05 November 2021 (registration number INPLASY2021110016).

INTRODUCTION

Review question / Objective: **We aimed to compare the effects of enhanced recovery after surgery (ERAS)protocols and standard of care on postoperative acute kidney injury(AKI) undergoing general surgery.**

Condition being studied: **Enhanced recovery after general surgery (ERAS) protocols and postoperative acute kidney injury(AKI).**

METHODS

Search strategy: **The following keywords and their synonyms were searched: -**

(Determinant: 'Enhanced Recovery After Surgery', 'fast-track surgery ') AND -(Outcomes: 'acute kidney injury' OR'renal failure')AND -(surgery:'General surgery') Sources: PubMed , EMBASE, Web of Science , Cochrane Database of Systematic Reviews,www.ClinicalTrials.gov. No time restrictions. Restrictions: -Language: English.

Participant or population: Inclusion criteria: Adult patients undergoing enhanced recovery after general surgery (ERAS) protocols. Exclusion criteria: presence of infection; severe mental disorder; existing pacemaker; a history of alcohol and drug abuse.

Intervention: Enhanced Recovery After general Surgery program.

Comparator: Standard care for general surgery patients.

Study designs to be included: Randomized controlled trials (RCTs) and cohort studies will be included.

Eligibility criteria: Independent evaluation by two persons.

Information sources: Electronic databases Sources: PubMed, EMBASE, Web of Science, Cochrane Database of Systematic Reviews. Search all references included in the article. Grey literature: For grey literature, contact the researcher by letter.

Main outcome(s): Post Postoperative acute kidney injury.

Additional outcome(s): Secondary outcomes included length of stay(LOS); other complications, 30-day readmission rate; 30-day reoperation rate.

Data management: The data extraction obtained by this search were independently screened by two reviewers. In case of inconsistency, consensus was achieved by a third independent reviewer. The following data will be extracted: author, year of publication, country where the study was conducted, study type and period, original inclusion criteria, number of intervention, type of surgery, incidence of postoperative AKI, length of stay , other complications, Intraoperative crystalloid supplement; Intraoperative colloid supplement; 30-day readmission rate; 30-day reoperation rate in the two groups.

Quality assessment / Risk of bias analysis: Cochrane risk of bias tool will be used to assess risk of bias.

Strategy of data synthesis: A systematic review and qualitative analysis will be performed for the included studies. Summary tables will be generated for each of the data extraction components. For each outcome, the effect measure and its 95% confidence interval will be reported and a summary of that effect measure will be calculated. Statistical results for pre- and post-intervention outcomes will be compared against minimal clinically important difference cut-offs. Where two or more high quality studies report on the same intervention and comparator, a meta-analysis will be performed using a random effects model. Heterogeneity will be assessed using the I^2 statistic. If meta-analysis is not possible due to clinical or methodological heterogeneity between studies, a descriptive synthesis will be performed, with evidence grouped based on study type and intervention. Statistical analysis will be performed using Stata12 and revman5.4.

Subgroup analysis: Results will be stratified by: study type: Randomized controlled trials (RCTs) or cohort studies; type of surgery: colorectal surgery and not-colorectal surgery; length of stay(LOS); day readmission rate, 30-day reoperation rate.

Sensitivity analysis: 1.Sensitivity analysis was performed between different surgical categories. 2.Different outcome definitions were used for sensitivity analysis.

Language: English.

Country(ies) involved: China.

Keywords: Enhanced recovery after general surgery (ERAS); postoperative acute kidney injury(AKI).

Contributions of each author:

Author 1 - Linjuan Xu - Writing protocol and manuscript.
Email: ery_xulj@lzu.edu.cn
Author 2 - Baoyuan Zhou - Literature Search, statistical analysis, Writing manuscript.
Email: zhoubyuan@foxmail.com
Author 3 - Yi Li - Data extraction, Quality assessment.
Email: liyixiaoyi@163.com
Author 4 - Yingbin Wang - Data extraction, Quality assessment.
Email: wangyingbin6@163.com
Author 5 - Jianqin Xie - Overall guidance.
Email: ery_xiejq@lzu.edu.cn