

INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Efficacy of different interventions to reduce pre- or perioperative blood transfusion rate in patients with colorectal cancer: A network meta-analysis

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Review question / Objective: No conclusive evidence had been developed about the superiority of different pharmacologic interventions to reduce need of blood transfusion before or during surgery in colorectal cancer patients.

Condition being studied: Colorectal cancer patients with or without baseline anemia, who were planned to receive target surgery.

Information sources: Electronic database (PubMed, ClinicalKey, Cochrane CENTRAL, Embase, ProQuest, ScienceDirect, and Web of Science), contact with authors, trials registers, and grey literature.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 April 2021 and was last updated on 29 April 2021 (registration number INPLASY202140143).

INTRODUCTION

Review question / Objective: No conclusive evidence had been developed about the superiority of different pharmacologic interventions to reduce need of blood transfusion before or during surgery in colorectal cancer patients.

Rationale: The high proportion of blood transfusions before and during surgery carries unnecessary risk and results in poor prognosis in colorectal cancer patients. Different pharmacological interventions (i.e., iron supplement or recombinant erythropoietin) to reduce

blood transfusion rates have shown inconclusive results.

Condition being studied: Colorectal cancer patients with or without baseline anemia, who were planned to receive target surgery.

METHODS

Participant or population: Colorectal patients who planned to undergo bowel/colorectal surgery.

Intervention: Pharmacologic intervention (i.e., iron supplement or recombinant erythropoietin) to reduce the blood transfusion rate.

Comparator: Placebo-controlled, waiting-list, or active-controlled.

Study designs to be included: Only randomized controlled trial.

Eligibility criteria: (1) human RCTs, (2) clinical trials recruiting patients with colorectal cancer who were scheduled to undergo surgery, and (3) trials with preoperative intervention (i.e., iron supplement or recombinant erythropoietin) to reduce the blood transfusion rate.

Information sources: Electronic database (PubMed, ClinicalKey, Cochrane CENTRAL, Embase, ProQuest, ScienceDirect, and Web of Science), contact with authors, trials registers, and grey literature.

Main outcome(s): Rate of blood transfusion during the target surgery (i.e., bowel/colorectal surgery).

Additional outcome(s): changes in hemoglobin level (converted into uniform units of g/dL), ferritin level (converted into uniform units of ng/mL), and the amount of blood transfused (calculated in uniform units of "Units").

Data management: To extract data of interest and stored in the pre-determined excel file.

Quality assessment / Risk of bias analysis: Evaluated the risk of bias for each domain, as described in the Cochrane risk of bias tool.

Strategy of data synthesis: Using network meta-analysis of frequentist model.

Subgroup analysis: Patients with baseline anemia or not.

Sensitivity analysis: According to the baseline anemia or not.

Language: No restriction.

Country(ies) involved: Taiwan.

Keywords: colorectal cancer; anemia; erythropoietin; iron; network meta-analysis.

Dissemination plans: disseminate data through formally published article.

Contributions of each author:

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