INPLASY PROTOCOL

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Support: **None.**

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

Conflicts of interest:
The authors declare that they have no competing interests.

Erythropoietin for chemotherapy induced anaemia in patients with solid tumours: a protocol of systematic review and meta analysis

Dou, C[1].

Review question / Objective: **This study aimed to assessment the efficacy and safety of human erythropoietin in the treatment of chemotherapy induced anaemia in patients with solid tumours.**
Condition being studied: **Not application.**
Information sources: **We plan to search the following seven electronic databases: PubMed, Embase, Cochrane Library, Web of Science, China National Knowledge Infrastructure (CNKI), Chinese Biomedical Literature Database (CBM) and Wanfang database. There are no restrictions on the publication date of the literature, including online literature in advance, and the publication language is limited to Chinese and English. In addition, to avoid missing potential trials, we will also retrieve conference papers, dissertations, ongoing studies, and reference list of all related reviews.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 June 2020 and was last updated on 26 June 2020 (registration number INPLASY202060098).

INTRODUCTION

Review question / Objective: **This study aimed to assessment the efficacy and safety of human erythropoietin in the treatment of chemotherapy induced anaemia in patients with solid tumours.**

Rationale: **systematic review and meta analysis.**

Condition being studied: Not application.

METHODS

Participant or population: (1)Patients with solid tumours confirmed by histology or cytology;(2)Age≥18 years;(3)Received chemotherapy; (4)Hb≤10.0g/dl; (5)No restriction of gender, country and race.

Intervention: Human erythropoietin.

Comparator: Placebo or other treatment.

Study designs to be included: Randomized controlled trial and no randomized controlled trial.

Eligibility criteria: All the works of study selecting will be done independently by two reviewers. Any conflict will be resolved by discussion with the help of another reviewer. Firstly, all collected records will be imported into EndNote X8 and all duplicated records will be removed. Secondly, records will be screening to rule out obvious nonconformities by titles and abstracts. Finally, we will obtain full-texts of remaining studies and carefully examine them according to the inclusion criteria.

Information sources: We plan to search the following seven electronic databases: PubMed, Embase, Cochrane Library, Web of Science, China National Knowledge Infrastructure (CNKI), Chinese Biomedical Literature Database (CBM) and Wanfang database. There are no restrictions on the publication date of the literature, including online literature in advance, and the publication language is limited to Chinese and English. In addition, to avoid missing potential trials, we will also retrieve conference papers, dissertations, ongoing studies, and reference list of all related reviews.

Main outcome(s): (1)Changed of Hb; (2) Blood transfusion rate; (3) Transfusion volume; (4) Changed of Red blood cell; (5) Changed of Reticulocyte count; (6) Changed of Iron protein; (7) Changed of Serum iron; (8) Adverse efficacy.

Additional outcome(s): None.

Quality assessment / Risk of bias analysis: The Risk of Bias assessment tool from the Cochrane Handbook was used to assess the methodological quality of RCTs, and the Newcastle-Ottawa Scale was used to assess the quality of case controls. Each RCT was assessed to low risk, high risk, or unclear risk relating to the following items: sequence generation, allocation concealment, blinding of outcome assessors, incomplete outcome data, selective9 outcome reporting, and other sources of bias. The NOS assesses the quality of case controls with eight questions in three broad categories: (1) patient selection; (2) comparability of study groups; (3) assessment of the outcome. The total score is 9, the higher the score, the better the quality of the study. Two reviewers will independently to complete the quality assessment. Any disagreement between the reviewers will be resolved by discussion or consultation with another reviewer.

Strategy of data synthesis: We conducted meta-analyses using the Mantel–Haenszel method with the random-effects model for RCTs and case-control trials to estimate the overall effect size. The pooled odds ratio with 95% credible intervals was used for the dichotomous variables. The mean difference with 95% CIs was used for the continuous variables. The heterogeneity between trials was evaluated using I^2 statistics. The values of 25%, 50%, and 75% for the I^2 as indicative of low, moderate, and high statistical heterogeneity, respectively. We explored the publication bias using the Egger's test and funnel plots if the number of included studies exceeded nine. All analyses were conducted by Comprehensive Meta Analysis 2.0. A 2-tailed P value < 0.05 is considered statistically significant.

Subgroup analysis: If the necessary data are available, we would perform subgroup analysis by type of cancer or age or gender.

Sensibility analysis: We will use the meta-regression analysis to assess whether the

age of patients or publication language or other factors are the sources of heterogeneity or affect the results.

Language: Chinese and English.

Country(ies) involved: China.

Keywords: Erythropoietin; Chemotherapy induced anaemia; Solid tumour; systematic review; meta analysis.

Dissemination plans: Both the protocol and the full text publications will be published in the journal.

Contributions of each author:
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