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None declared.

Advantages of damage control surgery over conventional surgery inmultiple trauma: a meta-analysis

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Review question / Objective: **This meta-analysis aims to explore whether damage control surgery has advantages over traditional surgery in the treatment of multiple trauma.**
Information sources: **The Chinese Biomedical literature (CBM), Chinese National Knowledge Infrastructure (CNKI), Weipu (VIP), Duxiu, WanFang, Web of sciense, PubMed, Scopus, Ovid, EMbase, ProQuest, Cochrane, Chinese clinical trial Registry and Clinical Trials.gov databases.**
Main outcome(s): **mortality rate, the success rate of rescue, In-hospital length of stay, ICU length of stay, the overall incidence rate of complications, incidence of disseminated intravascular coagulation (DIC), incidence of multiple organ dysfunction syndrome (MODS) , incidence of shock.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 October 2022 and was last updated on 02 October 2022 (registration number INPLASY2022100006).

INTRODUCTION

Review question / Objective: **This meta-analysis aims to explore whether damage control surgery has advantages over traditional surgery in the treatment of multiple trauma.**

Condition being studied: **At present, there is no evidence that damage control surgery in multiple trauma is better than traditional surgery.**

METHODS

Participant or population: **Multiple trauma.**

Intervention: **Damage control surgery.**

Comparator: **Traditional surgery.**

Study designs to be included: Randomized controlled trial.

Eligibility criteria: Articles were included if they met all of the following criteria: 1) Randomized controlled studies (RCTs) 2) The study population is multiple trauma patients. 3) In each study, the experimental group was treated with damage control surgery, while the control group was treated with traditional surgery. 4) Articles report one or more of the following: (a) mortality rate, (b) the success rate of rescue, (c) in-hospital length of stay, (d) ICU length of stay, (e) the overall incidence rate of complications, (e1) incidence of disseminated intravascular coagulation (DIC), (e2) incidence of multiple organ dysfunction syndrome (MODS) , (e3) incidence of shock, (f) recovery time of body temperature, (g) clearance time of lactic acid, (h) recovery time of prothrombin time (PT), (i) recovery time of activated partial thromboplastin time (APTT), (j) recovery time of base excess (BE), (k) intraoperative blood loss, (m) operation time and (n) blood transfusion volume. 5) Included studies are from inception to September 2022. Articles were excluded if any of the following were present: 1)Articles are not randomized controlled trials. 2) The disease types of each study are inconsistent. 3) The intervention or control measures of each study are inconsistent. 4) The outcome indicators of the article are inconsistent.5) The language of the articles are not Chinese or English. 6) The study population of articles are not adults. 7）Articles are not available. 8) The articles are reviews or meta-analyses. 9) The data in the articles are duplicated or there is no data in the articles. 10) Nursing articles 11) Animal experiment.

Information sources: The Chinese Biomedical literature (CBM), Chinese National Knowledge Infrastructure (CNKI), Weipu (VIP), Duxiu, WanFang, Web of sciense, PubMed, Scopus, Ovid, EMbase, ProQuest, Cochrane, Chinese clinical trial Registry and Clinical Trials.gov databases.

Main outcome(s): Mortality rate, the success rate of rescue, In-hospital length of stay, ICU length of stay, the overall incidence rate of complications, incidence of disseminated intravascular coagulation (DIC), incidence of multiple organ dysfunction syndrome (MODS) , incidence of shock.

Additional outcome(s): Recovery time of body temperature, clearance time of lactic acid, recovery time of prothrombin time (PT), recovery time of activated partial thromboplastin time (APTT), recovery time of base excess (BE), intraoperative blood loss, operation time and blood transfusion volume.

Quality assessment / Risk of bias analysis: Cochrane collaboration tool.

Strategy of data synthesis: We used the RevMan software (version 5.3) provided by the Cochrane Collaboration and Stata (version 17) for data analysis. Dichotomous variable was presented as Risk ratios (RR). Continuous outcomes were presented as the mean difference and with a 95% confidential interval (CI) rate.

Subgroup analysis: None.

Sensitivity analysis: After deleting any one of the documents, merge them again. If the effect size is not much different, then pass the sensitivity analysis.

Language restriction: Chinese and English.

Country(ies) involved: China.

Keywords: multiple trauma, damage control surgery, conventional surgery, meta-analysis.

Contributions of each author:

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