

Effect of glyocalyx biomarker syndecan-1 on prognosis in adult patients with sepsis/septic shock: a meta-analysis

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Xinjiang Medical University.Du, XX¹; Shi, TT²; Yang, CB³; Yu, XY⁴.**ADMINISTRATIVE INFORMATION****Support** - National Natural Science Foundation of China (82160360).**Review Stage at time of this submission** - Preliminary searches.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202360043**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 June 2023 and was last updated on 14 June 2023.**INTRODUCTION**

Review question / Objective The objective of this study is to systematically evaluate the effect of glyocalyx biomarker syndecan-1 on prognosis in adult patients with sepsis/septic shock.

Condition being studied Sepsis is a life-threatening dysfunction of one or more organs caused by a dysregulated host response to an infection. Studies have reported that microcirculatory injury occurs frequently, affecting the glyocalyx. Under physiological conditions, the glyocalyx is responsible for regulating vascular permeability, modulating the release of nitric oxide and contributing to adequate hemostasis, among other functions. In patients with sepsis or inflammatory conditions, glyocalyx damage contributes significantly to magnifying this inflammatory response by increasing vascular permeability and leukocyte migration and contributes to the characteristic coagulation abnormalities of patients with sepsis.

METHODS

Participant or population Adult patients with sepsis and septic shock diagnosed by surviving sepsis campaign guidelines.

Intervention Glyocalyx biomarker syndecan-1.

Comparator No.

Study designs to be included Observational study.

Eligibility criteria 1. observational study; 2.the study subjects met the definition criteria of sepsis or septic shock in surviving sepsis campaign guidelines.;3.age > 18 years old, gender is not limited; 4.the outcome indicators included the risk of mortality, the risk of developing respiratory failure and multiple organ dysfunction syndrome.

Information sources The Cochrane library, PubMed/MEDLINE, Embase and Google Scholar.

Main outcome(s) The risk of mortality.

Quality assessment / Risk of bias analysis the Newcastle-Ottawa Scale.

Strategy of data synthesis Statistical analysis was performed using Review Manager software version 5.2 (ReVman 5.2). The Higgins index was used to evaluate heterogeneity, with a value greater than 20% considered to indicate heterogeneity between the studies. The antel-Haenszel randomeffects model was used for the analyses and the fixed-effects method was used for studies with low heterogeneity.

Subgroup analysis No.

Sensitivity analysis: Sensitivity analysis was performed using ReVman 5.2. The sensitivity of the article was reversed by the change of the effect size after deleting one of the studies.

Country(ies) involved China.

Keywords Glycocalyx, Sepsis, Septic shock, meta-analysis.

Contributions of each author

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