

Lactate/Albumin Ratio as an early Prognostic Marker for Cardiac Arrest Patients: A Systematic Review and Meta-Analysis

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Huang, HB; Yu, DX; Yang, T; Shi, JH.

Corresponding author:

Hui-bin Huang

psyc6789@163.com

Author Affiliation:

Guang'anmen Hospital, China
Academy of Chinese Medical
Sciences.

ADMINISTRATIVE INFORMATION**Support** - No support.**Review Stage at time of this submission** - Completed but not published.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202670047**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 July 2026 and was last updated on 15 July 2026.**INTRODUCTION**

Review question / Objective This meta-analysis aimed to evaluate the prognostic value of the lactate/albumin ratio (LAR) in predicting mortality and neurological outcomes in CA patients.

Condition being studied The research team comes from the Department of Critical Care Medicine of a tertiary hospital in China, and all the team members have perfect clinical experience in critical care and resuscitation. Moreover, our team members have published more than 50 meta-analyses, which can guarantee the successful completion of the current research.

METHODS

Participant or population Adults (≥ 18 years) with OHCA or IHCA who achieved ROSC, regardless of the cause, resuscitation method, or post-resuscitation care.

Intervention LAR measured within 24 hours of admission or ROSC, with no restriction on detection method.

Comparator Studies evaluating LAR as either a continuous or categorical variable.

Study designs to be included Prospective or retrospective observational studies, case-control or cross-sectional study.

Eligibility criteria Eligibility was determined using the PICOS framework as above. Studies were excluded if they met any of the following criteria: (1) animal studies, case reports, case series, reviews, editorials, or conference abstracts lacking data; (2) no LAR measurement or incomplete outcome data; (3) duplicate publications or overlapping populations; (4) participants who were pediatric (< 18 years), pregnant, or CA patients without ROSC; (5) outside the scope of the review.

Information sources PubMed, Embase, and the Cochrane Library. To minimize publication bias, we

also retrieved grey literature from <https://clinicaltrials.gov/>, Conference Proceedings Citation Index, ProQuest Dissertations and Theses Global, and <https://www.who.int/tools/clinical-trials-registry-platform>.

Main outcome(s) Short-term mortality(defined as all-cause death within approximately 90 days after admission; when multiple time points were reported, the estimate closest to 90 days was used) or a favorable neurological outcome (assessed within the same short-term follow-up period). short-term mortality.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale (NOS) was used to assess study quality of the included studies.

Strategy of data synthesis Meta-analysis.

Subgroup analysis Subgroup analysis was performed for the primary outcome according to: (1) CA subtype: OHCA, IHCA, mixed OHCA+IHCA; (2) study design: retrospective cohort, prospective cohort; (3) sample size: <250 cases, ≥250 cases; (4) follow-up: 30-day, 90-day, in-hospital mortality; (5) mortality: <37%, ≥37% (defined by the average mortality rate of the included studies); (6) cut-off of LAR: <2.7, ≥2.7 (defined by the average cut-off value of the included studies); and (7) LAR measurement timepoint post-ROSC: within 6 hours, unspecified timing.

Sensitivity analysis Leave-one-out sensitivity analysis was conducted to evaluate the robustness of the pooled results.

Country(ies) involved China.

Keywords Lactate/albumin ratio; Cardiac arrest; Mortality; Neurological outcome; Meta-analysis.

Contributions of each author

Author 1 - Hui-bin Huang.

Email: psyc6789@163.com

Author 2 - Da-Xing Yu.

Email: xingxingyu121@sina.com

Author 3 - Ting Yang.

Author 4 - Jia-Heng Shi.

Email: 991266007@qq.com