

Lactate-Albumin Ratio (LAR) as a Prognostic Marker for critically ill Patients with trauma: A Systematic Review and Meta-Analysis

INPLASY202670050

doi: 10.37766/inplasy2026.7.0050

Received: 16 July 2026

Published: 16 July 2026

Huang, HB; Yu, DX; 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** - Data analysis.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202670050**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 July 2026 and was last updated on 16 July 2026.**INTRODUCTION**

Review question / Objective This systematic review and meta-analysis aimed to evaluate the association between LAR and mortality, as well as its diagnostic accuracy for predicting mortality intrauma population.

Condition being studied 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 Critically ill trauma patients, without additional restrictions on trauma classification, injury severity, or admission approaches.

Intervention Early LAR (within 24 hours after emergency department or intensive care unit (ICU) admission) was tested.

Comparator Studies adopting LAR continuous values or dichotomous LAR data divided by optimal cut-off points for prognostic analysis were both eligible.

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

Eligibility criteria Study inclusion and exclusion criteria were established in accordance with the PICOS described above.

Information sources PubMed, Embase, and the Cochrane Library, ClinicalTrials.gov and the WHO International Clinical Trials Registry Platform.

Main outcome(s) The association between LAR and mortality at the longest available follow-up.

Quality assessment / Risk of bias analysis The methodological rigor of eligible observational investigations was evaluated via the Newcastle-Ottawa Scale (NOS).

Strategy of data synthesis Meta-analysis.

Subgroup analysis Subgroup analyses were conducted to explore potential sources of heterogeneity and the consistency of LAR's prognostic performance across different clinical subgroups, stratified by study design, sample size, follow-up time points, region, trauma type, and mortality risk).

Sensitivity analysis A "leave-one-out" sensitivity analysis was performed by sequentially omitting each individual study and recalculating the pooled effect size.

Country(ies) involved China.

Keywords lactate-albumin ratio; trauma; critical illness; mortality; meta-analysis.

Contributions of each author

Author 1 - Hui-bin Huang.

Email: psyc6789@163.com

Author 2 - Da-Xing Yu.

Author 3 - Jia-Heng Shi.