INPLASY PROTOCOL

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Support: **Not applicable.**

Review Stage at time of this submission: **Data extraction.**

Conflicts of interest:
None declared.

Comparison the efficacy of amiodarone and lidocaine for cardiac arrest: A network meta-Analysis

Wang, Q[1]; Lin, Z[2]; Chen, HR[3]; Pan, BY[4].

Review question / Objective: **There is no evidence that antiarrhythmic drugs can improve long-term survival or survival with favorable neurological outcomes in cardiac arrest patients. We did this network meta-analysis to comprehensively compare the efficacy of various antiarrhythmic drugs for cardiac arrest patients.**
Eligibility criteria: **Population: cardiac arrest patients. Intervention: the intervention group received intravenous amiodarone or lidocaine or amiodarone combined lidocaine or placebo. Outcome: survival to hospital discharge in cardiac arrest, survival to hospital admission/24 h and favorable neurological outcome. Study design: randomized controlled trials and retrospective studies.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 31 January 2023 and was last updated on 31 January 2023 (registration number INPLASY202310090).

INTRODUCTION

Review question / Objective: **There is no evidence that antiarrhythmic drugs can improve long-term survival or survival with favorable neurological outcomes in cardiac arrest patients. We did this network meta-analysis to comprehensively compare the efficacy of various antiarrhythmic drugs for cardiac arrest patients.**

Condition being studied: **Cardiac arrest patients.**

METHODS

Participant or population: **Cardiac arrest patients.**

Intervention: **Antiarrhythmic drugs.**

Comparator: Other antiarrhythmic drugs or placebo.

Study designs to be included: RCTs and non-RCTs.

Eligibility criteria: Population: cardiac arrest patients. Intervention: the intervention group received intravenous amiodarone or lidocaine or amiodarone combined lidocaine or placebo. Outcome: survival to hospital discharge in cardiac arrest, survival to hospital admission/24 h and favorable neurological outcome. Study design: randomized controlled trials and retrospective studies.

Information sources: Electronic databases.

Main outcome(s): Survival to hospital discharge in cardiac arrest, survival to hospital admission/24 h and favorable neurological outcome.

Quality assessment / Risk of bias analysis: The risk of bias was evaluated for RCTs by two reviewers which consisted of the follow items: sequence generation, allocation concealment, blinding of participants, blinding of outcome assessor, incomplete outcome data, reporting bias and other bias, based on the Cochrane Handbook for Systematic Reviews of Interventions version. Any discrepancy of the evaluations between the two reviewers was resolved by a third reviewer. Observational studies were assessed by the Newcastle–Ottawa Scale including eight items. A higher overall score indicates a lower risk of bias and a score of<5 out of 9 corresponds to a high risk of bias.

Strategy of data synthesis: For pairwise meta-analysis, all data was processed with Stata 12.0 (Stata Corporation; Stata Statistical Software, Release 12.0 (2011); College Station, TX, USA). Dichotomous outcomes were expressed as survival to hospital discharge in cardiac arrest, survival to hospital admission/24 h and favorable neurological outcome and the Odds Ratio indicated the effect of intervention. The statistical heterogeneity was conducted by the Q and chi-121 squared test in accordance with the value of P and I^2. If I^2>50%, P 50% indicating heterogeneity, and for the overall results, we also considered the total I2.pair and I2.cons. With values closer to 0 indicating homogeneity. We also performed sensitivity analyses: one study was excluded at a time, and the remaining studies were combined for analysis to see if the results would change. The mean surface under the cumulative ranking (SUCRA) curve for each intervention was calculated. And a larger SUCRA demonstrated a higher rank of the protocol.

Subgroup analysis: None.

Sensitivity analysis: None.

Country(ies) involved: China.

Keywords: Cardiac arrest; Amiodarone; Lidocaine; Meta-analysis.

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