

Early vs. Non-Early Coronary Angiography in Patients with Out-of-Hospital Cardiac Arrest without ST-Segment Elevation: An Updated Meta-Analysis of Observational Studies and Randomized Controlled Trials

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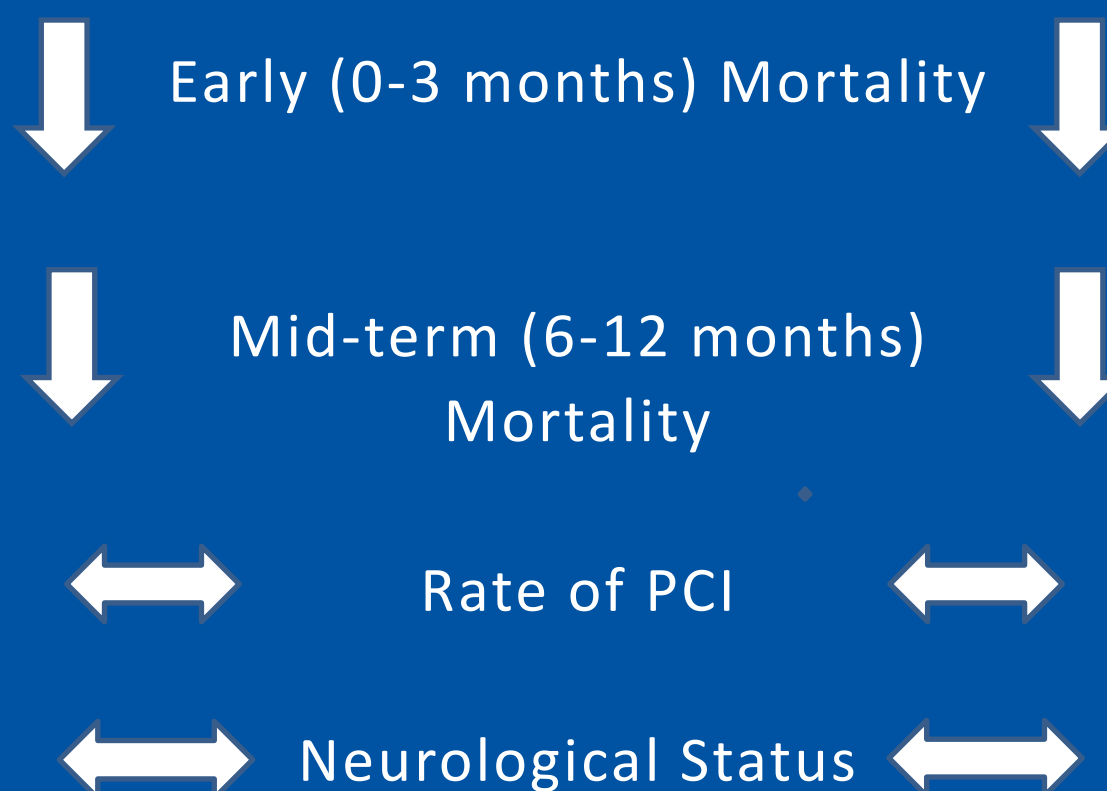
Introduction

- Although immediate coronary angiography (CAG) and revascularization is recommended in patients with out-of-hospital cardiac arrest (OHCA) with ST-segment elevation (STE) on electrocardiography to reduce mortality, the benefit of early CAG in patients with OHCA without STE still remains disputed in the current literature.
- We aimed to determine the value of **early vs non-early CAG in patients with OHCA without STE.**

Methodology

- An electronic search was performed using PubMed, EMBASE, Ovid Medline, and Cochrane Database from inception to September 2022. References were searched manually. Early and non-early CAG patients were identified based on the definitions mentioned in respective studies.
- Outcomes of interest included **early (0–3 months) mortality, mid-term (6-12 months) mortality, rates of percutaneous coronary intervention (PCI), and neurological status (cerebral performance category score (CPC) 1 or 2).**
- Mantel-Haenszel aggregated risk ratios (RR) with 95% confidence intervals (CIs) were calculated.

Patients admitted with out-of-hospital cardiac arrest without ST-segment elevation who received early coronary angiography had:



Results

A total of 16 studies (8 RCTs and 8 observational studies) were included comprising 5233 patients;
- 2228 underwent early coronary angiography
- 3005 underwent non-early coronary angiography

There was a **statistically significant difference** between the two groups with respect to:

Early (0-3 months) mortality

(RR: 0.86; CI: 0.76 to 0.98; I²: 67%, p=0.02)

Mid-term (6-12 months) mortality

(RR: 0.88; CI: 0.80 to 0.96; I²: 30%, p<0.01),

There was **no statistically significant difference** between the two groups with respect to:

Rates of PCI (RR: 1.27; CI: 0.96 to 0.70; I²: 89%, p=0.10)

Neurological status (RR: 1.05; CI: 0.93 to 1.18; I²: 51%, p=0.46)

Conclusion

- Although our pooled analysis demonstrated that patients admitted with OHCA without STE, who received early CAG had better early as well as mid-term mortality, our RCT-only analysis failed to demonstrate any significant difference.

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