

METHODS NOTE · Peer-reviewed · Published

The Revascularisation Paradox: Statistical Fragility in the 2024 JACC Meta-Analysis: Methodological Critique & Simulation Synthesis

Tia Mistry, Igor Buslowski & Mahmood Ahmad

Methods Note · Volume 1

Published 2025-12-09 · Diamond open access · CC BY 4.0

Article 10 · Volume 1 · Published 2025-12-09 · DOI: not assigned

KEY WORDS STEMI; Complete Revascularisation; PCI; Network Meta-analysis

Abstract

The recent JACC network meta-analysis by Reddy et al. concluded that complete revascularisation following MI reduced all-cause mortality by 15% when compared to culprit-only PCI. This finding contradicts the major CULPRIT-SHOCK trial. We propose that this discrepancy reflects important unaddressed heterogeneity: (1) inclusion of NSTEMI populations (FIRE trial) and (2) exclusion of cardiogenic shock.

Using a forensic simulation engine (RevascLogic), we show that when heterogeneity is corrected for using Hartung-Knapp-Sidik-Jonkman (HKSJ) variance estimation and competing-risk modelling, the apparent mortality benefit vanishes, indicating a balance between reduced recurrent ischaemia and increased procedural risk.

HOW TO CITE

Tia Mistry, Igor Buslowski & Mahmood Ahmad. The Revascularisation Paradox: Statistical Fragility in the 2024 JACC Meta-Analysis: Methodological Critique & Simulation Synthesis. *Synthesis*. 2026;7(1). Article 10. Available at <https://synthesis-medicine.org/index.php/journal/article/view/10>. Licensed under CC BY 4.0. DOI: not assigned.

Source record. This article was typeset from the journal's published metadata record (OAI-PMH Dublin Core) at synthesis-medicine.org. Title, authors, abstract, keywords, issue and licence are reproduced verbatim from that record; no figures, references, affiliations or identifiers were added beyond what the record provides.

Copyright (c) 2025 Tia Mistry, Mahmood Ahmad, Igor Buslowski. Open access under the Creative Commons Attribution 4.0 International licence (CC BY 4.0): free to share and adapt with attribution.

Published in *Synthesis* · synthesis-medicine.org