Interventions and diagnostics

**ADVERSE EVENTS FROM NITRATE ADMINISTRATION DURING RIGHT VENTRICULAR MYOCARDIAL INFARCTION: A SYSTEMATIC REVIEW AND META-ANALYSIS**

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**Background** The current guidelines of the American Heart Association and European Society of Cardiology recommend that patients experiencing RVMI are not administered nitrates, due to the risk that decreasing preload in the setting of already compromised right ventricular ejection fraction may reduce cardiac output and precipitate hypotension. The cohort study (n = 40) underlying this recommendation was recently challenged by several new studies suitable for meta-analysis (cumulatively, n = 1206), suggesting that this topic merits systematic review.

**Method** The protocol was registered on PROSPERO and published in Evidance Synthesis. Six databases were systematically searched in January 2021: PubMed, Embase, MEDLINE Complete, Cochrane CENTRAL Register, CINAHL, and Google Scholar. Identified studies were assessed for quality and bias and data extracted by two investigators using JBI tools and methods. Risk ratios and 95% confidence intervals were calculated, and meta-analysis performed using the random effects inverse variance method.

**Results** Five studies (n=1113) were suitable. Outcomes included haemodynamics, GCS, syncope, arrest, and death. Arrest and death did not occur in the RVMI group. Meta-analysis was possible for sublingual nitroglycerin 400 mcg (2 studies, n=1050) and found no statistically significant difference in relative risk to combined inferior and RVMI at 1.31 (95%CI 0.81-2.12, p=0.27), with an absolute effect of 2 additional adverse events per 100 treatments. Results remained robust under sensitivity analysis. Other studies are severely limited by sample sizes well below optimal information size.

**Conclusion** This review suggests that the contraindication on nitrate administration during RVMI is not supported by the evidence informing this appraisal for 400 mcg sublingual nitroglycerin. Key limitations include not evaluating beneficial effects, low certainty of evidence, and only two studies being included haemodynamics, GCS, syncope, arrest, and death. Arrest and death did not occur in the RVMI group. Meta-analysis was possible for sublingual nitroglycerin 400 mcg (2 studies, n=1050) and found no statistically significant difference in relative risk to combined inferior and RVMI at 1.31 (95%CI 0.81-2.12, p=0.27), with an absolute effect of 2 additional adverse events per 100 treatments. Results remained robust under sensitivity analysis. Other studies are severely limited by sample sizes well below optimal information size.

**REFERENCES**

Conflict of interest None to declare.

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Quality improvement and organization

**RESUSCITATION ACADEMY GERMANY – SYSTEMIC IMPROVEMENTS FOR BETTER OUT-OF-HOSPITAL CARDIAC ARREST OUTCOMES**

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**Background** The first Resuscitation Academy Germany (RAD) aims to improve the outcomes after out-of-hospital cardiac arrest (OHCA) systemically and sustainably according to Eisenberg’s 10-step program developed 2008 in Seattle/King County, USA. 1 Participating Emergency Medical Services

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