Abstract: P960

Association of peri-procedural intravenous morphine use on clinical outcomes in ST-elevation myocardial infarction treated by percutaneous coronary intervention: systematic review and meta-analysis

Authors:
R Batchelor¹, D Liu¹, J Bloom¹, S Noaman¹, W Chan¹, The Alfred Hospital - Melbourne - Australia,

Topic(s):
Coronary Intervention: Primary and Acute PCI

Citation:

Funding Acknowledgements:
None

Background: Morphine analgesia may affect absorption of co-prescribed P2Y12 antagonists attenuating platelet inhibition. The impact of peri-procedural intravenous (IV) morphine administration on clinical outcomes in patients undergoing primary percutaneous coronary intervention (PPCI) for ST-elevation myocardial infarction (STEMI) is not well defined.

Purpose: To conduct a systematic review and meta-analysis exploring clinical outcomes with peri-procedural IV morphine in patients undergoing PPCI for STEMI.

Methods: Analysis of the electronic databases MEDLINE, EMBASE, CENTRAL, Scopus, Web of Science and ClinicalTrials.gov for association of peri-PCI IV morphine use with myocardial infarction (MI) and mortality. Primary and secondary outcomes were in-hospital or 30-day MI and all-cause mortality respectively.

Results: Eleven studies (1 randomised controlled trial; 10 cohort studies) were included for systematic review. Five studies, including 3,748 patients were included in meta-analysis of the primary outcome. Of 3,748 patients, 2,239 were treated concurrently with ticagrelor, 1,256 treated with clopidogrel and 253 with prasugrel. As shown in the Figure, there was a trend towards increased risk of myocardial infarction with IV morphine (odds ratio 1.88; 95% CI 0.87-4.09, I² 0%). Across seven studies and 6585 patients, no increased risk of mortality at the same composite time endpoint was evident (odds ratio 0.70, 95% CI 0.40-1.23, I² 19%).

Conclusion: Based on current literature, evidence of an association between IV morphine and myocardial infarction in patients undergoing PPCI for STEMI is limited by observational methodology and conflicting results. There is no evidence of an association between intravenous peri-procedural morphine and mortality. Clinical trial evidence with strong documentation of adverse events data is required to demonstrate association or causality.
Abstract: P960
Association of peri-procedural intravenous morphine use on clinical outcomes in ST-elevation myocardial infarction treated by percutaneous coronary intervention: systematic review and meta-analysis

Authors: R Batchelor 1, D Liu 1, J Bloom 1, S Noaman 1, W Chan 1
The Alfred Hospital - Melbourne - Australia,

Topic(s): Coronary Intervention: Primary and Acute PCI

Citation: 

Funding Acknowledgements: None

Background: Morphine analgesia may affect absorption of co-prescribed P2Y12 antagonists attenuating platelet inhibition. The impact of peri-procedural intravenous (IV) morphine administration on clinical outcomes in patients undergoing primary percutaneous coronary intervention (PPCI) for ST-elevation myocardial infarction (STEMI) is not well defined.

Purpose: To conduct a systematic review and meta-analysis exploring clinical outcomes with peri-procedural IV morphine in patients undergoing PPCI for STEMI.

Methods: Analysis of the electronic databases MEDLINE, EMBASE, CENTRAL, Scopus, Web of Science and ClinicalTrials.gov for association of peri-PCI IV morphine use with myocardial infarction (MI) and mortality. Primary and secondary outcomes were in-hospital or 30-day MI and all-cause mortality respectively.

Results: Eleven studies (1 randomised controlled trial; 10 cohort studies) were included for systematic review. Five studies, including 3,748 patients were included in meta-analysis of the primary outcome. Of 3,748 patients, 2,239 were treated concurrently with ticagrelor, 1,256 treated with clopidogrel and 253 with prasugrel. As shown in the Figure, there was a trend towards increased risk of myocardial infarction with IV morphine (odds ratio 1.88; 95% CI 0.87-4.09, I² 0%). Across seven studies and 6585 patients, no increased risk of mortality at the same composite time endpoint was evident (odds ratio 0.70, 95% CI 0.40-1.23, I² 19%).

Conclusion: Based on current literature, evidence of an association between IV morphine and myocardial infarction in patients undergoing PPCI for STEMI is limited by observational methodology and conflicting results. There is no evidence of an association between intravenous peri-procedural morphine and mortality. Clinical trial evidence with strong documentation of adverse events data is required to demonstrate association or causality.