

2021 Best Research Poster Award



Early Revascularisation in NonSTEMI

Project Team Leader: Anand Ganes

Project Team Members: Fatima Iqbal, Lim Hin, Rohit Samuel, Louise Segan, Chin Hiew, Adam Hutchison

INTRODUCTION

- Australian guidelines recommend an early invasive strategy in patients with Non-STEMI. ¹
- Despite these recommendations a significant proportion of patients fail to meet these guidelines.

OBJECTIVES

To determine the association of early (<24 hrs from presentation) versus delayed (>24 hours from presentation) invasive management of NSTEMI with Major Adverse Cardiovascular Events (MACE: acute coronary syndrome, stroke, major bleed, heart failure, malignant arrhythmia and death) at 1 year from the sentinel event.

METHOD

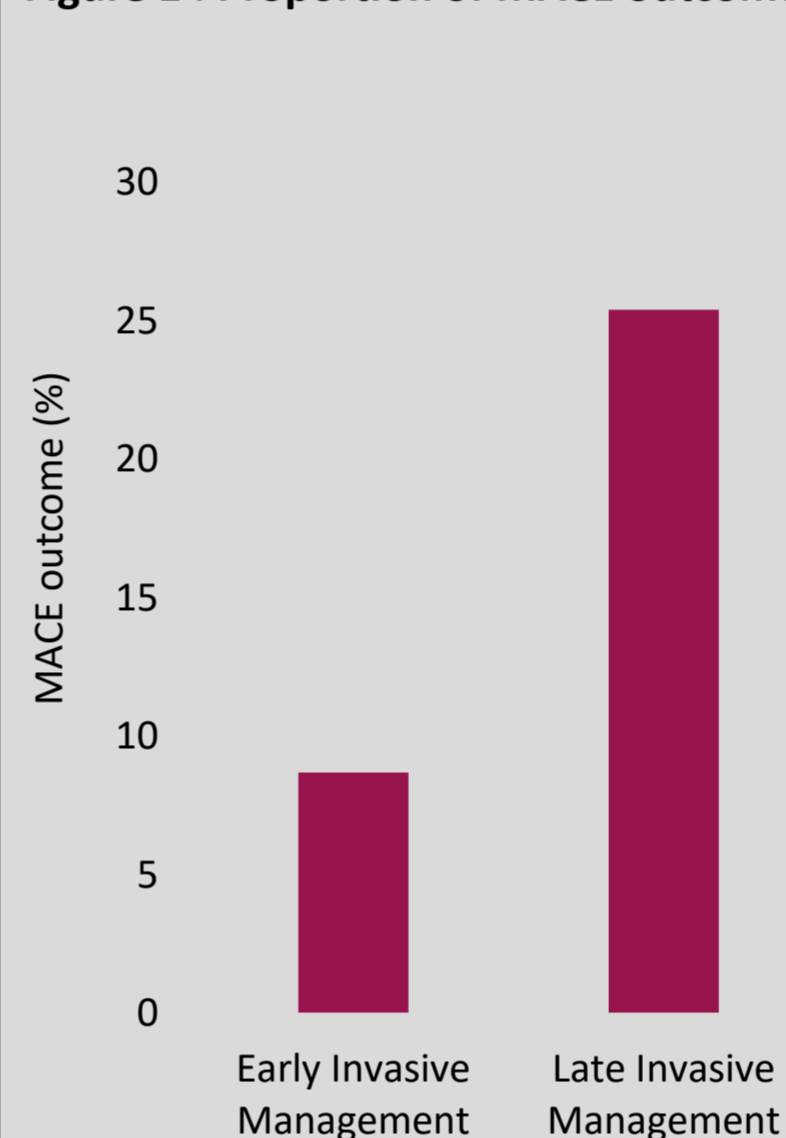
- A retrospective cohort study of 355 consecutive patients presenting with NSTEMI was conducted.
- Patient demographics, medical history, hospital presentation and intervention data was obtained using electronic health record.
- Cases were stratified using The Global Registry of Acute Coronary Events (GRACE) score.
- Multivariable logistic regression was performed to adjust for the GRACE score, demographics characteristics and significant co-morbidities.

RESULTS

Table 1: Cohort Demographics and comorbidities

	Early Invasive Management (n=150)	Late Invasive Management (n = 126)	P value
Age (mean ± SD, years)	63.3 ± 12.3	70.2 ± 13.0	< 0.0001
Female Gender	50 (33.3%)	50 (39.7%)	0.315
Ischaemic Heart Disease (IHD)	62 (49.2)	50 (33.3%)	0.007
Hypertension (HTN)	91 (60.7%)	88 (69.8%)	0.112
Hyperlipidaemia	61 (40.7)	64 (50.8%)	0.092
Diabetes Mellitus (DM)	38 (25.3%)	38 (30.1%)	0.371
Valvular Heart Disease (VHD)	3 (2.0%)	5 (4.0%)	0.332
Chronic Kidney Disease (CKD)	30 (20.0%)	37 (29.4%)	0.071
Atrial Fibrillation (AF)	17 (11.3%)	15 (11.9%)	0.883
Chronic Obstructive Pulmonary Disease (COPD)	9 (6.0%)	11 (8.7%)	0.384

Figure 1 : Proportion of MACE outcomes



Univariate Analysis

- Factors with increased MACE outcomes were loss to early access cardiology outpatient follow-up (OR 2.53; 95% CI 1.47- 4.33) and late invasive management of NSTEMI (OR 3.59; 95% CI 1.79-7.20)
- Comorbidities associated with MACE outcomes were IHD ($p < 0.0001$), HTN ($p = 0.001$), hyperlipidaemia ($p = 0.025$), DM ($p = 0.003$), CKD ($p = 0.007$), AF ($p = 0.007$) and COPD ($p = 0.005$)

Multivariate Analysis

- Variables that were independently associated with MACE outcomes were:
 - Late Invasive Management ($p = 0.013$)
 - High- risk GRACE Risk Stratification ($p = 0.001$)
 - DM ($p = 0.047$)

DISCUSSION

- A significant proportion of patients (35.5%) received delayed invasive management of NSTEMI.
- The effect of transfer associated delays for rural patients in receiving coronary angiogram couldn't be assessed due to sample size limitations.

CONCLUSION

- Delayed invasive management of NSTEMI is associated with an increased risk of MACE.
- Further research is required to improve current system of care to ensure compliance with guideline recommended therapy for patients with NSTEMI.

REFERENCES

1. Chew DP, Scott IA, Cullen L, French JK, Briffa TG, Tideman PA, Woodruffe S, Kerr A, Branagan M, Aylward PE. National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand: Australian clinical guidelines for the management of acute coronary syndromes 2016. Medical Journal of Australia. 2016 Aug;205(3):128-33.