East Sussex Healthcare
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A Retrospective Study of Adverse Cardiovascular Outcomes in Patients Aged Under and Over 80 undergoing Angiography

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Introduction

- Percutaneous coronary intervention (PCI) is the gold standard for the treatment of acute coronary syndrome (ACS) but risks increase with age
- Older people are often managed conservatively, but more evidence is required to guide decision making
- Two cohorts analysed:
  - Cohort 1: Patients undergoing invasive angiography (all indications)
  - Cohort 2: ACS patients treated invasively vs conservatively

Aims

1. Assess outcomes in patients under vs over 80 years old undergoing invasive strategy
2. Compare outcomes in patients under vs over 80 years old receiving invasive vs conservative management in ACS admission

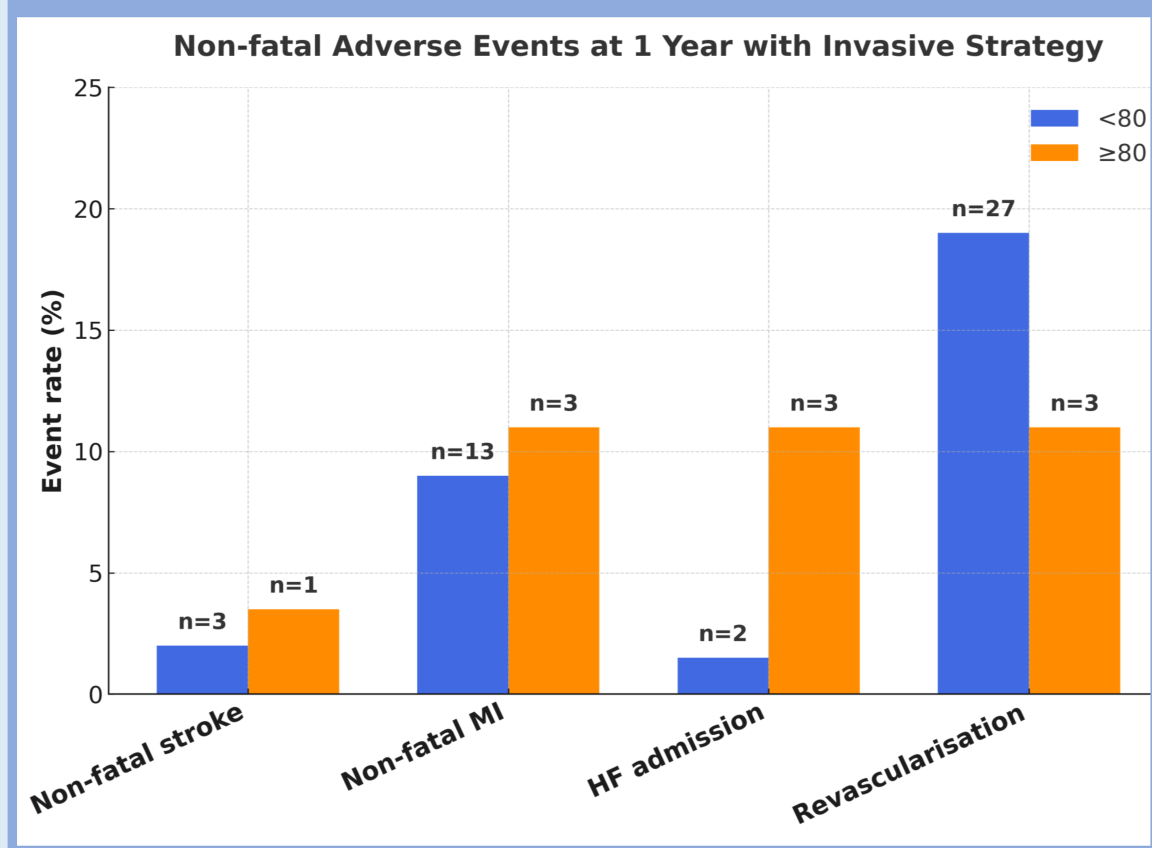
Methods

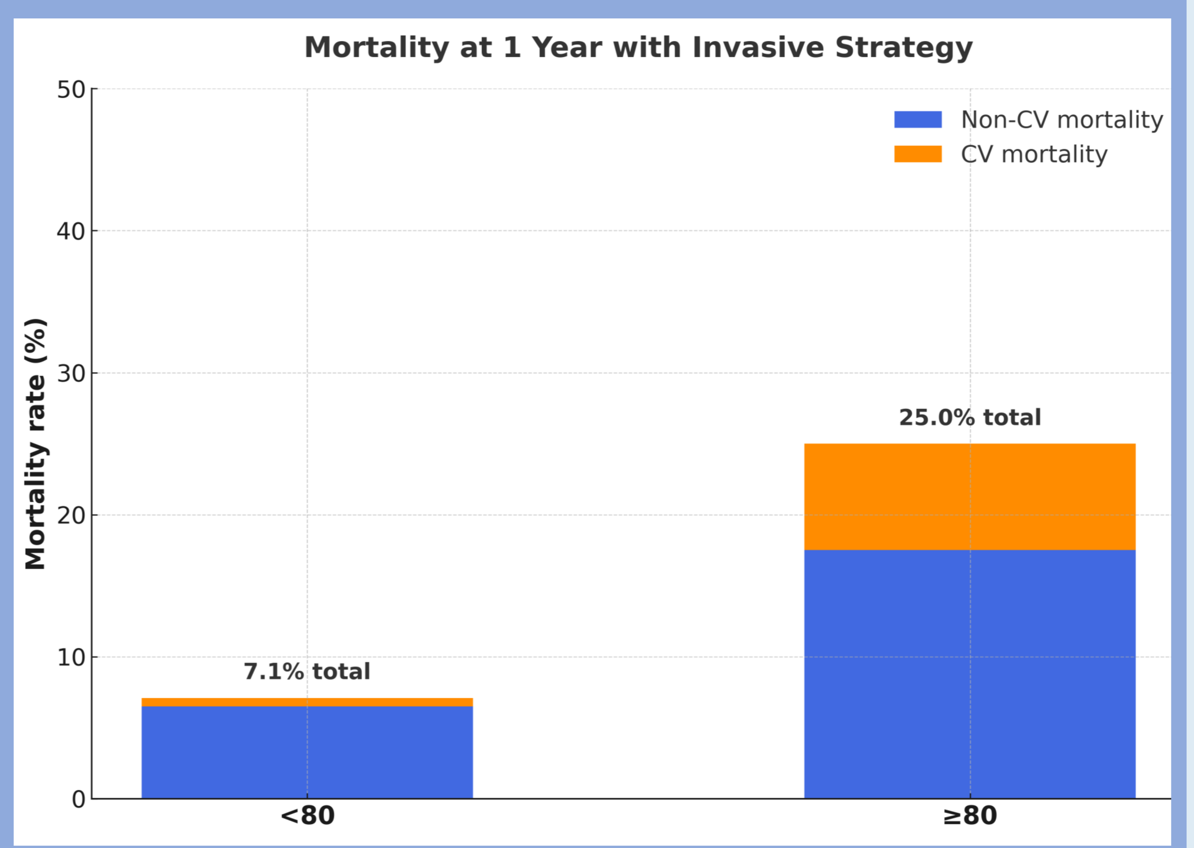
- Retrospective study at Conquest Hospital October-December 2023
- Data from TOMCAT, Myocardial Ischaemia National Audit Project (MINAP) and patient e-records.
- Follow-up period: 13 months
- Outcomes: non-fatal adverse events (myocardial infarction (MI), stroke, heart failure (HF) admission), cardiovascular death and all-cause mortality

Results

Cohort 1: Patients undergoing invasive angiography (all indications)

Characteristic	Age < 80 years (n=141)	Age ≥ 80 years (n=27)
Average Age	65	83
Sex		
Male	102 (72.3%)	17 (63.0%)
Female	39 (27.7%)	10 (37.0%)
Risk Factors		
Hypertension	81 (57.4%)	17 (63.0%)
Hyperlipidaemia	70 (49.6%)	14 (51.9%)
Family History	77 (54.6%)	11 (40.7%)
Diabetes Mellitus	39 (27.7%)	5 (18.5%)
Smoking History	56 (39.7%)	15 (55.6%)
Previous MI	37 (26.2%)	12 (44.4%)





Cohort 2: ACS patients treated invasively vs conservatively

Age group	Strategy	Proportion of cohort (%)	All-cause mortality (%)	Cardiovascular mortality (%)
<80	Invasive	88.4	7.1	0.7
<80	Conservative	11.6	38.5	15.4
≥80	Invasive	62.0	25.0	7.4
≥80	Conservative	38.0	25.0	16.7

Limitations

- Limitations of retrospective study design – unable to draw causative conclusions
- Small sample size yields low statistical power
- Predominantly Caucasian and older cohort limits extrapolation to other patient populations
- Selection bias - patients managed conservatively likely had a higher inherent risk of adverse outcomes irrespective of intervention

Results Highlights

Cohort 1 – Invasive Strategy (n=168)

•Older patients (≥80) had higher all-cause mortality (18.5% vs 5.0%) and CV death (7.4% vs 0.7%).
•Non-fatal events were similar across ages:
- MI (9.2% vs 11.1%) and stroke (2.1% vs 3.7%).
- Revascularisation more common in <80s(19.1% vs 11.1%).
- HF admission more common in ≥80 (15%vs 2%)

Cohort 2 – ACS Admissions (n=144)

•Invasive strategy less frequent in ≥80s (62% vs 88% in <80s).
•Invasive strategy reduced CV mortality in both age groups.
•All-cause mortality:
- <80: higher with conservative management (38.5% vs 7.1%).
- ≥80: high regardless of management (25% vs 18.5%)

Discussion

- Management decisions in older adults require careful balancing of risks and benefits.
- Invasive angiography reduces cardiovascular mortality but did not change overall survival in patients ≥80.
- In patients aged ≥80, intervention may be considered for symptomatic relief, and this study shows it to be safe in carefully selected cases. For others, particularly those with well-controlled symptoms or significant frailty, medical management may be more appropriate, as invasive strategies do not improve prognosis.
- At our centre, age alone was not a barrier to angiography, but invasive management remained less frequent in older adults