

Development of a Pathway for Early Outpatient Coronary Angiography

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BACKGROUND

NICE recommend that patients with NSTEMI-ACS have access to coronary angiography within 72 hours of admission. Pre-pandemic UK audit data shows this was achieved in 54.8% and that patients admitted to a non-PCI hospital had a median wait of 82.4 hours.¹ The NHS was therefore struggling to meet this NICE target prior to the impact of the COVID-19 pandemic, which has intensified pressure on hospital beds and ambulance services.^{2,3}

Newcastle Hospitals provide regional services to over 3 million people. Cardiology inpatient bed capacity has been significantly reduced as a result of reconfiguration due to the COVID-19 pandemic and, in 2021, the mean wait for NSTEMI-ACS patients from admission to angiography was > 96 hours.

Randomised trials illustrate that ACS patients with high risk features derive the greatest benefit from early coronary angiography.^{4,5} We explored the introduction of an early outpatient angiography pathway for select non-high risk ACS patients as part of an escalation policy during periods of service pressure to facilitate effective triage and timely inpatient treatment of higher risk patients.

OBJECTIVES

To provide a safe, efficient service for ACS patients in the Newcastle-upon-Tyne region during periods of increased service pressure by developing a pathway for early outpatient coronary angiography within 2-4 weeks post-discharge

METHODS

- Review of current guidelines and evidence base
- Collection of performance data and patient survey data with respect to the ACS service
- Multi-professional consultation with interventional and non-interventional consultants across sites, senior nursing, management and administrative staff.
- Proposed pathway presented to the Cardiology Departmental meeting
- Trial of pathway in small number of patients
- Formal implementation of a pilot phase with collection of patient survey data, operational and clinical data.

RESULTS

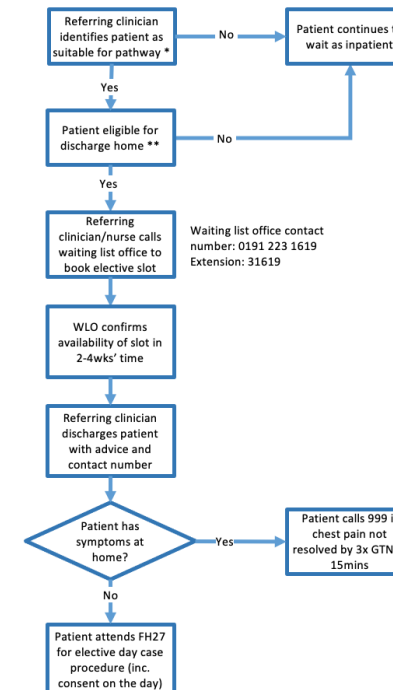
- Data from Jan-Dec 2021 (12 months) identified 1516 NSTEMI-ACS patient episodes
- Mean time from admission to inpatient angiography was > 4 days and mean length of inpatient stay > 5 days
- ~500 patient episodes potentially suitable for proposed pathway (based on age, TnT < 50ng/L and normal ECG) and 30 mortality in this subgroup was 0%
- A patient survey highlighted strong support for early outpatient angiography if this was felt to be of comparable safety and for approaches to minimise hospital stay in general

- During consultation, there was strong evidence of demand for early outpatient angiography for non-ACS patients with significant angina (CCS class 3-4), which may reflect elective WL times
- The pathway received broad support and underwent significant revision over months, with the simplified pathway illustrated below:

Early Outpatient Coronary Angiography Pathway

This pathway is designed for use in the following circumstances:

- ACS waiting list for urgent angiography is 18 or more patients
- To avoid admissions when early angiography is felt to be beneficial



Patients on low-risk ACS pathway will always be accommodated on elective PCI lists
 * Patient meets ACS referral criteria following review by cardiologist. Should include: 24hrs pain-free, no ECG changes, troponin <50.
 ** Patients eligible for discharge home takes social factors into account (own transport home, lives with someone and can manage at home, has telephone)

CONCLUSIONS

Interventional cardiology services should reflect the diverse needs of the population we serve.

The introduction of an early outpatient coronary angiography pathway offers key benefits: providing flexibility to respond to patients' wishes, averting borderline admissions where patients need expeditious but not necessarily inpatient care, and allowing us to target timely inpatient intervention to those who will benefit most. Challenges include appropriate patient selection, with safety being paramount, and provision of resources to guarantee the 2-4 week waiting time.

Implementation of the pathway and comprehensive evaluation are ongoing. Future directions include expanding access to other referring centres in the region and setting-up a virtual ward to monitor patients.

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