

THE EFFECT OF AGE AND FRAILITY ON OUTCOMES FOR OLDER ADULTS ADMITTED WITH ACUTE CORONARY SYNDROME : AN ANALYSIS OF MINAP REGISTRY

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Background

Acute Coronary Syndrome (ACS) contributes at least 20% of the overall acute hospital admissions (1). Frailty, independent of age, is associated with adverse outcomes following admission with ACS but is often not accounted for in risk stratification scores. Those identified as frail may not be considered for invasive interventions despite evidenced benefits (2,3) and are at risk of worsening geriatric syndromes on discharge. Additionally, patients presenting with low-risk ACS may be suitable for remote monitoring (4) while awaiting an angiogram in the chest pain virtual ward thereby improving patient flow and resource utilisation (5).

Purpose

We aimed to assess clinical outcomes in older adults admitted with ACS, with or without frailty to suggest if there is a role for geriatrician input in improving healthcare usage and preventing adverse events.

Method

Anonymised data was obtained from an NHS trust's Myocardial Ischaemia National Audit Project (MINAP) registry from March 2022 to April 2023 for patients who presented to ED with a diagnosis of confirmed ACS, as shown in Figure 1. Patients were stratified into low-risk (GRACE score <140, HEART score <4, non-dynamic ECG, non-dynamic troponin, without ongoing chest pain), and all other patients were deemed intermediate-to-high-risk ACS. Baseline demographics were collected as per Table 1. Endpoint data includes length of stay pre and post angiogram, 30-day readmission rates and all-cause mortality.

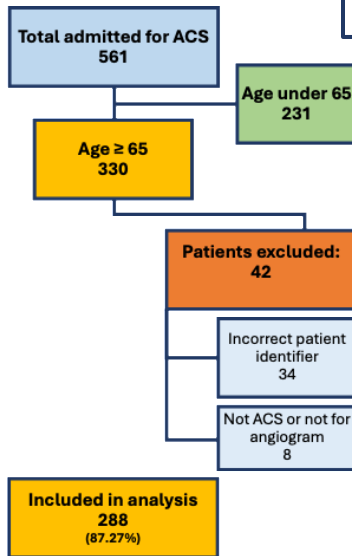


Figure 1: Flowchart for included patients

Results

561 patients were admitted under cardiology with a confirmed diagnosis of ACS during the study period, characteristics of whom have been previously described (4). Subgroup analysis of 288 patients over age 65 admitted with ACS was performed, as shown in Figure 1 and demographics in Table 1. Patients over 75 years who were admitted had higher rates of frailty ($p < 0.001$). 253 (87%) patients underwent invasive angiogram during admission. Although age was not a limiting factor, frailer adults were less likely to have an angiogram: ($p = 0.00199$). Mean LOS for all over 65y was 9.02 days with median 7 [IQR 4-12] v mean LOS 6.08 days for all under 65 ($p < 0.001$). There was a trend for longer admission with increasing frailty and increasing age, but this was not statistically significant (Figure 2).

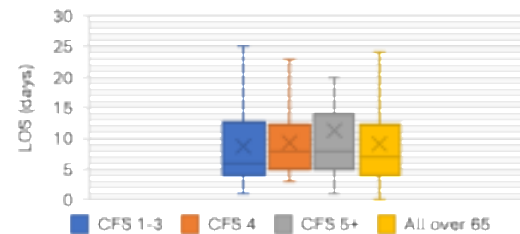


Figure 2: Box and whisker comparing length of stay (LOS) grouped for frailty (top) and age (bottom)

Table 1. Demographics of admitted population

	Not Frail CFS 1-3	Vulnerable CFS 4	Frail CFS ≥ 5	P values	
Total	288	155	50	83	
Age (mean ± SD)	75.6 ± 6.8	74.1 ± 6.6	75.1 ± 7.3	78.7 ± 6.4	
Age groups					
65-74	87	27	20		
75-84	60	15	47		
85+	8	8	16	< 0.001	
Sex					
Male	109	36	44		
Female	46	14	39	0.016	
Risk Stratification					
Low Risk	4	1	9		
High Risk	142	43	54	0.002	
Angiogram performed					
253 (88%)	146 (94%)	44 (88%)	63 (76%)	< 0.001	
Outcome Measures					
Total LOS Median [IQR]	7 [4 – 12.5]	6 [4 – 12.5]	8 [5 – 12.5]	8 [5 – 14]	0.07
Days waiting for angiogram Median [IQR]					
2 [1 – 7]	2 [1 – 7]	3 [1 – 6.5]	3 [1 – 8.5]	0.14	
30-day readmission	7	3	7	0.25	
30-day all-cause mortality	2	0	3	0.16	
1-year all-cause mortality	4	0	3	0.34	

Conclusion

Older people admitted with ACS are more likely to have a prolonged admission. Input from geriatricians and the wider multidisciplinary team may help optimise decision-making and care for patients admitted with ACS and mild-moderate frailty. Going forward, carefully selected older patients with low-risk chest pain may benefit from management in a Hospital@Home-style chest pain virtual ward, avoiding the adverse impact of a prolonged hospital stay.

References:

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