Unstable angina management: should coronary computed tomography angiography take the lead?

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Introduction: Patients with chest pain, non-ST elevation ECGs, and normal troponin levels present challenges in identifying acute myocardial injury and are often classified as having unstable angina, necessitating further evaluation. Current guidelines recommend non-invasive imaging, such as coronary computed tomography angiography (CCTA), to exclude coronary artery disease (CAD) or guide management.[1-3] However, in Croatian hospitals, this approach is underutilized, with a primary focus on invasive coronary angiography (ICA). This study evaluates diagnostic and treatment strategies for unstable angina at the University Hospital Centre (UHC) Zagreb and examines CCTA's potential role in the Emergency Department.

Patients and Methods: We conducted a retrospective analysis of patients admitted for unstable angina at UHC Zagreb from January to March 2024. We focused on patients without ST-segment elevation on ECG and normal troponin levels. Data collected included diagnostic procedures, treatments, length of stay, and overall costs.

Results: We identified 65 patients with a diagnosis of unstable angina. Of these, 53 (81.5%) underwent ICA, while 12 (18.5%) had non-invasive testing. Percutaneous coronary intervention (PCI) was performed in 8 patients (12.3%), with no referrals for coronary artery bypass grafting (CABG). In the non-invasive group, 5 patients (7.7%) had CCTA, identifying one case of CAD, managed medically. The remaining 7 (10.8%) underwent exercise stress tests, requiring no further evaluations. The average hospital cost for ICA without PCI was €2876, rising to €4259 with PCI. Invasive patients had an average stay of 4.0 days, compared to 3.1 days for non-invasive patients, who incurred an average cost of €657.

Conclusion: Real-world data from a tertiary institution show that excluding CCTA from unstable angina diagnostic algorithms results in suboptimal care. Over 80% of patients are sent to the catheterization lab, but only one-sixth require revascularization, leading to higher costs and longer hospital stays without significant benefits. Non-invasive testing is underused, with reliance on less effective exercise stress tests rather than CCTA. These findings highlight the need to improve practices, especially in integrating CCTA into emergency and cardiology departments.

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