18.4.3 - Revascularisation

Women and elderly: do we delay treatment even after identifying ST-segment elevation?

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Funding Acknowledgements: Type of funding sources: None.

Introduction: It is known that some subgroups (e.g. women or elderly) may experience a delay in diagnosis of acute myocardial infarction (AMI). This may be due to atypical symptoms that don't trigger further evaluation as promptly as typical symptoms or due to underestimation of patient's complaints. However, we don't know if there is any delay in treatment after the diagnostic electrocardiogram (ECG).

Aim: To evaluate the association between patients' gender and age and reperfusion (by percutaneous coronary intervention - PCI) time after ECG.

Methods: Single-center retrospective study of individuals that underwent primary PCI between June 2011 and December 2017. We included patients aged ≥ 18, with time registry of the first ECG with ST segment elevation (or equivalent) and time of PCI. No patients were excluded. We defined the time between the first ECG and reperfusion as the ECG-PCI time.

Results: A total of 1679 patients were included; 78% male (n = 1317) and 22% female (n = 362); 59% were younger than 65 (n = 985) and 41% were 65 or older (n = 694). Median ECG-PCI time was higher in females [104 minutes (IQR = 68)] than in males [94 minutes (IQR = 61)]; this association was statistically significant (U = 269124, $p < 0.001$). Median ECG-PCI time was also higher in older (≥ 65 years) patients [101 minutes (IQR = 68)] than in younger patients [93 minutes (IQR = 55)], with statistical significance (U = 381141, $p < 0.001$). After stratifying patients' gender by age, we observed that, in male patients, median ECG-PCI time was lower in younger patients [91 minutes (IQR = 55)] than in older patients [100 minutes (IQR = 69)]; this association was also significant (U = 220025, $p < 0.001$). On the other hand, the same analysis in female patients found no significant association between younger and older patients (U = 13799, $p = 0.522$).

Conclusion: Despite a median ECG-PCI time difference of only 9 minutes between males and females, this difference was found to be significant. Factors delaying evaluation after onset of symptoms in women may also delay PCI after diagnostic ECG; borderline ECG criteria may be devalued in women. Older patients may take longer to PCI due to the higher incidence of comorbidities, specially diabetes mellitus, which can mask typical AMI symptoms. Survival impact of these differences should be further studied.

Abstract Figure. ECG-PCI time according to gender and age