Door-to-electrocardiogram time for patients presenting with atraumatic chest pain to the emergency department

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AIM

To calculate the door-to-electrocardiogram time for patients who present with chest pain to the Emergency Department and determine whether this is achieved within 10 minutes as stipulated by the American College of Cardiology.

Methodology

Door-to-electrocardiogram time, its constituent door-to-triage and triage-to-electrocardiogram times as well as age, gender, emergency severity index, mode of presentation and time of presentation are recorded for 70 patients presenting with chest pain at registration between February 2018 and April 2018.

Results

Total door-to-electrocardiogram time ranged from 0 to 294 minutes with a median time of 29 minutes. Only 19% having an ECG performed within 10 minutes of registration. Age and gender had no effect but those presenting by ambulance had shorter median time (0 vs 31 minutes) as did those triaged as a higher priority (29 vs 39 minutes) and those presenting in the early morning (18 vs 34 minutes).

Discussion

The 10-minute time frame has been recommended to improve outcomes by decreasing door-to-needle time in those who are found to have had a STEMI. This time goal is not being met but may be improved by means of introducing training programmes for clerks, performing ECGs directly at registration or triage and the use of fast track checklists.

Conclusion

There is room for improvement in facilitating early performance of ECGs to potentially improve outcomes for patients presenting with serious cardiac events.

Limitations include the small sample size, months selected for auditing, inability to additionally assess time of interpretation of ECGs and use of chest pain as the only presenting feature.