An audit of patients presenting to the Emergency Department with “chest pain” after the introduction of hs-cTnI testing, a chest pain pathway and the opening of a CDU

Background

As hs-cTnI testing has become increasingly sensitive we can now detect "normal" levels (1). This can be used to aid the immediate exclusion of Acute Coronary Syndrome (ACS) (2).

Patients with higher hs-cTnI levels need further evaluation which may include a 6 hour hs-cTnI level (3).

We have implemented a pathway based on the latest evidence (2, 4).

Previously all patients with a suspicion of ACS after clinical history, examination and ECG would have been admitted to the Acute Medical Unit (AMU) for a 12 hour cardiac Troponin level.

Methods

All patients presenting with "chest pain" to the Emergency Department (ED) in October 2013 had an immediate clinical assessment and ECG.

If there was a suspicion of ACS a 0 hour hs-cTnI level was taken. If this was <2.0ng/L then ACS was considered to have been excluded. A level between 2.0ng/L and 15ng/L for Females or 34ng/L for Males necessitated repeat (6 hour) testing.

Low-risk (identified against inclusion/exclusion criteria) patients were admitted to the clinical decisions unit (CDU) and high-risk patients were admitted to AMU.

Rapid Access Chest Pain Clinic (RACPC) was available to suspected cases of stable angina. An Atypical Chest Pain Clinic was also available.

CDU Inclusion Criteria

- Cardiac sounding chest pain within 24 hours
- TIMI-RS score <3
- Pain free on admission
- Age > 16 years
- Clear history
- Safe for discharge
- No evidence of heart failure
- No haemodynamic instability
- No co-morbid / social reason for admission
- No suspected or proven alternative diagnosis
- No ECG changes or Troponin elevation
- No coronary revascularisation within 4 weeks

Cardiologist Input and Clinics

35 patients required Cardiology input. 30 of these were transferred to the Cardiology ward while 5 were managed on AMU.

23 patients transferred to Cardiology had ACS while 7 had other diagnoses requiring specialist Cardiology care. 19 patients with ACS had inpatient angiograms. 4 of those went on to have inpatient CABGs.

25 patients discharged from ED or AMU were referred to RACPC for investigation of unstable angina. 8 patients were referred to the Atypical Chest Pain Clinic with an unclear cause for their chest pain.

Conclusions

A chest pain pathway, hs-cTnI testing and a CDU have been successfully implemented.

AMU admissions for patients initially suspected of having ACS in the ED have been reduced by 6.7%.

All patients with ACS were still successfully identified.

References


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