To prove more patients can be identified as low risk using HEART score and that cardiac TIMI score >1

Dr Rebecca Roberts

In our lower risk cohort, 366 patients were classified as low risk with a TIMI score 0 while 398 patients

Implementation of the pathway increased early discharge but many low risk patients are

Other reason for chest pain confirmed,

Riley RF, Miller CD, Russell GB, Harper EN, Sakamoto JT, Liu N,

This study excluded patients at high risk for cardiac events (TIMI score 2

Angiogram

Than MP, Pickering JW.

In a recent large study that included all patients presenting with chest pain to the

Revascularisation

Length of stay

To measure the magnitude of current potentially unnecessary cardiac testing.

Death all cause

A recent large study that included all patients presenting with chest pain to the emergency department, 24% more patients were classified as low risk using HEART instead of TIMI score (1).

Riley et al showed in 2017: “Utilizing the HEART Pathway as a decision aid for patients with undifferentiated chest pain resulted in significant cost savings.” (3).

Poldervaart et al showed in 2017 that “The HEART score outperformed the GRACE and TIMI scores in discriminating between those with and without MI in chest pain patients, and identified the largest group of low risk patients at the same level of safety.” (2).

The HEART pathway safely identifies significantly more patients as low risk compared to our TIMI pathway.

WDBH do further cardiac investigations in the majority of our low risk patients, despite evidence of an acceptably low miss rate for cardiac events. Length of stay is still long.

We can reduce costs significantly and safely by incorporating HEART score in the pathway and by re-education of our physicians.

Chest pain identified as low risk for acute coronary syndrome (ACS). Can a HEART score pathway identify more patients for early safe discharge than the current TIMI score pathway?

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Literature Review


Conclusions

The HEART pathway safely identifies significantly more patients as low risk compared to our TIMI pathway.

WDBH do further cardiac investigations in the majority of our low risk patients, despite evidence of an acceptably low miss rate for cardiac events. Length of stay is still long.

We can reduce costs significantly and safely by incorporating HEART score in the pathway and by re-education of our physicians.

Methods

1912 screened
March – June 2017
ADU / ED presentation
North shore and Waitakere Hospital
Triaged as “chest pain” on admission

1387 excluded
Only one Trop I
TIMI score >1
Other reason for chest pain confirmed, not ACS
Presentation not chest pain
No electronic discharge summary, insufficient baseline data

525 included
18 years
Serial contemporary Trop I negative at 0 and 2 hours
TIMI score 0 (low risk for coronary events) OR TIMI score 1 (more intermediate risk)

TIMI pathway cohort reclassified with HEART score

This study excluded patients at high risk for cardiac events (TIMI score 2-7).

In our lower risk cohort, 366 patients were classified as low risk with a TIMI score 0 while 398 patients were classified as low risk with a HEART score 0-3. 9% more patients were reclassified as low risk by using the HEART rather than the TIMI pathway.

If we had used a cohort involving the entire chest pain population then it is likely that an even larger proportion of patients would be reclassified as low risk HEART (0-3).

Further management of 366 TIMI 0 patients

As per our chest pain pathway, TIMI 0 patients get serial ECG and TIP after 2 hours. If all normal, to discuss with further considerations of discharge with reassurance and GP follow up vs Exercise treadmill test within 72 hours and same day ADU medical registrar assessment

Despite very low risk our patients get extensive further investigations

References


Acknowledgments

Clinical Investigators – data collection

Dr Seong Shin
Dr Vivien Yong
Dr Lavanya Pushparajah
Dr Rebecca Roberts

Awhina Research Centre

Dr Victoria Andersen, Rose Smart, Assoc. Prof. Wayne Miles, Dr Lifeng Zhou, Hamish Neave