Reviewer's report

Title: The Effect of a Regional Care Model on Cardiac Catheterization Rates in Patients with Acute Coronary Syndromes

Version: 3  Date: 2 August 2014

Reviewer: Darren Walters

Reviewer's report:

Thank you for asking me to review the paper
The Effect of a Regional Care Model on Cardiac Catheterization Rates in Patients with Acute Coronary Syndromes.

This is study of a total of 6154 patients with ACS admitted to Southern Alberta hospitals compared cardiac catheterization and revascularization rates during index hospitalization among patients admitted to community and interventional hospitals.

Major Revisions

Introduction

Whilst guidelines indicate an early invasive strategy some selection based on co morbidities and procedural risk and benefit forms part of the guideline recommendation eg AHA. The introduction should be rephrased.

How do the authors explain that patients admitted to the interventional center underwent catheterization sooner than those admitted to community centers (2.6 vs. 4 days, p<0.001). BUT In the interventional group, 9.8% underwent catheterization within 24 hours of admission compared to 16.7% in the community group. Within 48 hours from admission, 32.5% and 54.3% of the interventional and community patients underwent catheterization and within 72 hours, 48% and 68.3% had undergone the procedure (p<0.0001). Does a very skewed distribution account or this ? If so the median time to catherisation may be better reported.

Discussion

The paper should reference existing published NSTEMI regional models and discuss eg Chen et al Heart Lung and Circulation 2013. The HPP study in Australia also compares access to revascularisation in interventional versus non interventional centers. Med J Aust 188(4): 218-223. This and a number of other studies had very different findings ( better access and outcomes at interventional centers) please discuss.

As an observational study selection biases may have a significant impact on the patient outcomes and therefore it difficult for the authors to generalise their
findings. This is supported by the very different baseline characteristics of the two groups.
The discussion should be revised to reflect this issue.

One deficiency of the registry is it does not audit against benchmark KPIs.
Is data available about performance against guideline based care eg ECG within 10 minutes of arrival, prescription of guideline based medical therapy?

How do the authors explain the relative lack of investigation and intervention at interventional centers? Can they benchmark with other registries that have been published.

Minor Revision:
The tables lack units and abbreviation legends

Table 3
Why are the hazard ratios for interventional centers all 1.0 with no confidence intervals. Is this better presented in another way

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

none to declare