Author's response to reviews

Title: Access to myocardial revascularization procedures: Closing the gap with time?

Authors:

   Alain Vanasse (alain.vanasse@usherbrooke.ca)
   Theophile Niyonsenga (niyonsen@fiu.edu)
   Josiane Courteau (josiane.courteau@chus.qc.ca)
   Abbas Hemiari (abbas.hemiari@chus.qc.ca)

Version: 2 Date: 23 February 2006

Author's response to reviews: see over
To the editor,

On behalf of my colleagues, I am pleased to submit this revised manuscript. We want to thank Drs Bertoni and Rumsfeld for their valuable and pertinent comments. We seriously considered each comment. We are confident that this revised manuscript will be at their satisfaction and will meet the high standard quality of your journal. You will find below a point-by-point description of the changes made. Should you have any question, please feel free to e-mail the first author. We are looking forward to hearing from you.

Alain Vanasse, MD, PhD
Department of Family Medicine
Faculty of Medicine
Université de Sherbrooke

GENERAL RESPONSES TO THE REVIEWERS:

First of all, we want to thank Drs Bertoni and Rumsfeld for their valuable and pertinent comments. We seriously considered each comment, and the manuscript has been changed according to their concerns and comments. The first important change in the manuscript is the title. We feel that the new title will reflect more accurately the revised manuscript. Other major changes were: 1) To include only patients with myocardial infarction (MI) to insure more specificity to the cohort; 2) To categorize patients according to their catchment areas instead of their administrative regions, as suggested by one of the reviewers. These catchment areas better reflect the ‘access’ to revascularization since this procedure requires technical facilities and a professional expertise available only in specialized cardiology centers; 3) To concentrate on revascularization without considering angiography as the latter is a diagnostic procedure and should not be analyzed as a treatment procedure like PTCA or CABG; and 4) To withdraw the analyses on the death rates and readmission rates as they are not the focus of this paper. However
we present some results in the discussion section to discard the possibility that differences observed between groups were due to differences in the death rates.

RESPONSES TO THE REVIEWER JOHN RUMSFELD:

Major Compulsory Revisions

1. The introduction is extremely long and, while interesting and thorough, reads more like a review paper than an introduction to set up this study. …
   
The introduction has been reduced and rewritten according to the comments. More specifically we pay attention to keep the focus on distance and access to care and their impact on revascularization rates.

2. The hypothesis stated in the final paragraph of the introduction holds promise as a contribution to the literature (specifically evaluation access to specialized cardiology centers as a factor in regional variation in outcome after ACS), but this is not set up by the introduction nor this hypothesis tested in the Methods/Analyses nor are results of this hypothesis presented in the paper. There was no explicit categorization of regions by access to procedures or specific evaluation of specialized centers to test this hypothesis. …
   
   We agree with this reviewer’s comments and we are now considering crow-flight distances from patient’s place of residence to specialized cardiology centers, instead of using administrative regions. All the analyses have been rerun, using this new categorization of patients.

3. It is a major limitation that the only risk adjustment was age and sex. … Also, the proportion of STEMI, NSTEMI, and unstable angina by region should be presented and stratified analyses within these subgroups should be done, given the likely strong association with cardiac procedure use.

   We understand that according to specific acute coronary conditions different care must be provide and different outcomes can be expected. Unfortunately, MED-ECHO administrative database does not allow distinction between STEMI and NSTEMI but we can distinguish between MI and unstable angina. In order to raise the specificity of the condition presented by the patient in the cohort and to insure that the four groups are the most similar as possible, the inclusion criteria have been restricted to patients with MI (ICD-9 code 410).
Minor Comments

1. Intro (p.4): ‘As first intent treatment’ is unclear…
   “As first intent treatment, percutaneous transluminal coronary angioplasty” has been changed for “Early percutaneous transluminal coronary angioplasty” in order to clarify the idea.

2. Intro (p.4): ‘discrepancy between regions must be even greater today’ and ‘ever-increasing discrepancy’ should be clarified.
   These sentences no longer exist in the present version of the article as focus was changed from regional gap to gap in access to care.

3. Were Figures 2 and 3 also adjusted for cardiac procedures use, or just age and sex? Figures 1, 2 and 3 are difficult to interpret.
   Figures have been simplified and completely reviewed to present the new analyses’ results using the 4 groups of patients. We paid a special attention to the titles and legends.

RESPONSES TO THE REVIEWER ALAIN G BERTONI:

Major Compulsory Revisions

1. What is the time period of follow-up? …
   The follow-up time was exactly one year for each member of the cohort. This information is now added in the methods section of the manuscript.

2. How was CV death assessed? It is not clear if required hospitalization or whether death certificates were retrieved and reviewed.
   Death was assessed by the Quebec’s death register. This register contains the date and the cause of death and was linked with the hospital discharge register. However as no more death rates are presented in the manuscript, the above answer is not relevant anymore.

3. The impact of the decision to include catheterization in definition of ‘invasive procedure’ is not evident until discussion. Was there a regional difference in revascularization? Not all who have a catheterization will be found to be candidates for revascularization, or will be offered it.
   We agree with the author and understand that angiography is a diagnostic procedure and should not be analyzed as a treatment procedure like PTCA or
CABG and we are now considering only the revascularization procedure (PTCA and/or CABG) in the revised manuscript.

4. *The discussion of the cartographic methods and the clustering is difficult to follow. … If the authors wish to retain the maps, this will need to be clarified.*

The analyses by administrative regions were removed and replaced by catchment areas around the specialized cardiology centers. The completely revised map is more relevant to the study and presents valuable complementary information.