Reviewer’s report

Title: Surgical revascularization versus amputation for peripheral vascular disease in dialysis patients: a cohort study

Version: 1 Date: 1 December 2004

Reviewer: Bernard Jaar

Reviewer’s report:

General

This an interesting study by Logar et al. The authors attempt to address a very important issue regarding post-operative morbidity and mortality in dialysis patients undergoing peripheral vascular disease-related procedures, using Medicare patients in the United States Renal data System. The authors conducted a retrospective study to address the question at hand. They essentially reported 85% higher odds of dying within 30 days in patients who underwent an amputation compared to patients who underwent a surgical revascularization but no difference in number of hospital days.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1- One obvious limitation is the retrospective nature of the study. In that setting, there is significant selection bias. However, to their credit, the authors attempt to address this issue by using a propensity score. In my opinion, it would be important to address the limitations of the study design in the discussion section.

2- The authors use Medicare patients who underwent surgical revascularization or amputation within 6 months of initiation of dialysis. How do they account for patients not yet covered by Medicare, since there is a few months lag time before patients younger than 65 years are covered by Medicare?

3- Peripheral vascular disease (PVD) starts well before initiation of dialysis and many patients undergo PVD-related procedures before start of dialysis. How did the authors accounted for these procedures before initiation of dialysis? For example, it is possible that a patient had a revascularization for PVD before starting dialysis and a few months later while on dialysis they undergo a major amputation. I believe the authors should clarify this point.

4- Another limitation of the study is the use of the Medical Evidence (Form 2728) form. This form has limited sensitivity although high specificity [Longenecker JC. JASN 2000; 11(3):520-529]. Again, the authors should address this issue in their limitation.

5- There is risk of misclassification by using the ICD-9 Codes. Procedure code 39.29 is also used for dialysis access. How did the authors differentiate between PVD and dialysis access procedures? I concur that procedure code 39.25 mostly represent PVD-related revascularization.

6- I would suggest to test for interaction by race, diabetes mellitus status. It has been reported that African-American were more likely to undergo amputation for example.

7- How do the authors explain the increased risk of death in the “healthier” patients?
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the
author can be trusted to correct)

1- The authors could present the number procedures by ICD-9 Codes. How many had a code 39.25
versus 39.29?

Discretionary Revisions (which the author can choose to ignore)

1- One suggestion, would be to look at specific cause of death. Is there more cardiovascular death
after amputation versus revascularization?

2- If possible, the authors should consider other confounders in their analyses, such as: facility
characteristics. Are large medical centers more likely to do better after amputation or
revascularization because of the volume of cases, their expertise, …? What about regional
(geographic) variations?

What next?: Unable to decide on acceptance or rejection until the authors have responded to the
major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.