Reviewer's report

Title: Cardiovascular risk factor treatment targets and renal complications in high risk vascular patients: a cohort study

Version: 1  Date: 22 March 2011

Reviewer: Demetrios Vlahakos

Reviewer's report:

This is a large study providing useful information about our high risk patients but there are some important clinical issues need to be addressed.

1) the treatment goal for hypertension was the reduction of BP and the goal for hyperlipidemia was reduction of cholesterol. But to use as goal for albuminuria the use of RAS inhibitors and not the decreases in albumin excretion is misleading. For instance although < 40% achieved the goal for BP, 30% for cholesterol, 78% achieved the goal for albuminuria!

2) Hypertensive nephrosclerosis and diabetes mellitus cause microvascular disease and glomerulopathy. The risk did not decreased in diabetics despite the attainment of two or more treatment targets because the study had a rather limited follow-up of less than 5 years. Studies in diabetes such as UKPDS showed that the benefit is shown after 6-9 years of observation.

3) Diabetes and vascular disease are different entities because diabetes affects mainly small vessels (retinopathy, nephropathy) whereas vascular disease affects large arteries. Similarly, the hard end-point ESRD may be caused by both micro and macrovascular disease, whereas intervention to the renal vascular disease reflects merely macrovascular disease.

4) Although beta blockers have lost popularity, only these drugs and ACE inhibitors have been associated with treatment targets achieved. Please comment. Which beta blockers was used?

5) The more treatment targets achieved the lower the hemoglobin concentration, but this was not associated with worse outcome, probably because hematocrit lowering resulted from more liberal use of ACE inhibitors and ARB's, which in turn decrease erythropoiesis (Vlahakos et al AJKD 2010).

6) The study is consistent with the notion that no J-curve exists for renal outcomes.

7) More patients achieved the target goal for the diastolic (39%) and not the systolic BP (29%) not because the drugs used were more effective for the diastolic pressure but because low diastolic BP reflects older and stiffer arteries, as it should be the case in the cohort of high risk individuals with CV disease included in this study.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.