Reviewer's report

Title: Relationship between Sclerostin and Cardiovascular Calcification in Hemodialysis Patients: A cross-sectional study

Version: 1 Date: 10 July 2013

Reviewer: Stephen Sozio

Reviewer's report:

I read with interest the article by Brandenburg and colleagues. Recruiting dialysis patients and healthy controls, they sought to determine the cross-sectional association of a calcification marker, sclerostin, with coronary calcium score and aortic valve calcification. They found that sclerostin is associated with AV calcification both by imaging and by pathology, but it is not associated with CAC.

The strengths of the study include:

a) Relatively novel calcification biomarker (in relation to others already studied).
b) Several clinical calcification outcomes analyzed
c) Both clinical and research biomarkers used in this study from a group with a track record in this area

Limitations:

a) Relatively small, cross-sectional study without longitudinal outcomes

I have only several comments:

Major:

Comment 1: The authors recruit from 3 separate populations (in-center HD for MDCT, HD specimens from surgery/pathology for AV specimens, internal med clinics for controls for biomarkers). However, they only describe the MDCT recruitment. Please expand on this description (years of recruitment, standard of care with relation to pth and phos management, and describe the recruitment with inclusion/exclusion criteria for the other two populations.

Minor:

Comment 2: A flow diagram for each population using STROBE criteria would be helpful.

Comment 3: The characteristics of sclerostin have not been well described in the past. It would be useful to see a histogram of levels in both controls and HD patients with summary statistics. Is the appropriate functional form of sclerostin in analyses linear or logarithmic or some other form?

Overall, this was a novel and well performed study. I appreciated reviewing it.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.