Reviewer's report

Title: The association between urinary kidney injury molecule 1 and urinary cadmium in elderly during long-term, low-dose cadmium exposure

Version: 1 Date: 18 April 2011

Reviewer: Joseph V Bonventre

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Urine samples were collected from 153 non-smoking men and women aged 60 or more living in an area with moderate cadmium pollution from a metal plant. Urinary cadmium and KIM-1 as well as alpha1-microglobulin, beta2-microglobulin, blood urea nitrogen, urinary proteins and microalbumin were measured. KIM-1 levels were correlated with urinary cadmium concentration. No significant association was found among any of the other studied renal biomarkers with urinary cadmium. The authors conclude that “…urinary KIM-1 might be considered as a biomarker for early-stage metal induced kidney injury by cadmium.”

1. 153 of 154 individuals asked to participate agreed to do so. This is an important feature of the study.

2. Urinary Kim-1 correlated positively with urinary cadmium levels below 1 µg cadmium per gram creatinine, lower than it has been possible to see biochemical changes with cadmium using other approaches.

3. The authors should be more clear about why they plot the data the way they do, plotting the residuals log of Kim-1 or the other biomarkers vs the residuals of cadmium.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I am co-inventor on patents assigned to Partners Health Care and licensed to R and D systems, Genzyme, Ortho, Bioassayworks, Rules Based Medicine