Reviewer's report

Title: Selenium may be adversely associated with kidney function and kidney length in adult offspring of parents with Balkan Endemic Nephropathy and controls. A two-year follow-up study.

Version: 1 Date: 7 August 2007

Reviewer: vesselin nenov

Reviewer's report:

Balkan nephropathy is a generalized proximal tubular disorder with associated Fanconi syndrome (see Nenov VD, Am J Nephrol, 2002), for which hyperuricosuria and hypouricemia are characteristic. Patients with lead nephropathy, on the contrary, typically have hyperuricemia and this is sufficient to rule out lead as a cause of Balkan nephropathy.

This study is important, because it demonstrates two important findings: first, that the offspring of patients with BEN who currently live in endemic areas are not exposed to toxic levels of lead, selenium, arsenic or cadmium. Second, from the age distribution of the studied BEN offspring (67.6% above 41 years of age) and not finding a single patient with renal failure among 102 subjects, who are offspring of BEN patients, this study serves to prove unequivocally that BEN is not a familial/genetic disease.

The authors should place the emphasis on these two findings, both of which are very important, instead of emphasizing on a very weak relationship between selenium levels and some kidney parameters. If a parameter, such as selenium level, is weakly associated with kidney size and function to change them with only 1-2%, this cannot be called an "adverse effect on kidney function and size". Furthermore, calculated statistical significance using complex statistical methods may have occurred by chance, especially with selenium, for which the average level was different between the two years of investigation (56.9 in 2003 and 72.1 in 2004).

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