Reviewer's report

**Title:** Association between routine and standardized blood pressure measurements and left ventricular hypertrophy among patients on hemodialysis

**Version:** 1  **Date:** 18 April 2010

**Reviewer:** Riccardo Maria Fagugli

**Reviewer's report:**

The study of Khangura et al. “Association between routine and standardized blood pressure measurements and left ventricular hypertrophy among patients on dialysis” is not a new study, but confirmatory to previous studies. Other authors have demonstrated that single pre-HD BP values are not representative of the real BP burden, and that home BP measurement or 24h ABPM, particularly nocturnal values, are predictive of LVH. The study was not designed to assess the relationship between different methods of BP measurements and left ventricular mass.

The only new aspect of this study is the increase of precision in the evaluation of left ventricular mass because the authors used cMR to assess LVH.

Nevertheless, several aspect concerning methodology and patients selection limit the study.

**Methodology observations:**

1) Absence of a standardized gold-standard: 24/48 h ambulatory blood pressure measurements should be used.

2) Casual BP measurements: Pre-HD and post-HD BP are represented only by one measurement, not standardized. The risk of error is not predictable. Moreover, different number of measurements are not comparable: inter-HD BP measurement and standard BP are numerically superior to pre/post-HD measurement.

3) Standard pre HD measurement are the average of one year monthly BP. In literature Office pre-HD BP measurement is reported as the average of one month pre-HD measurement, that is 12 values (3 BP x 4 weeks).

4) The definition of LVH is wrong: Zoccali used LVM/sqm and LVM/h2.7.

5) Covariates analysis: It is demonstrated that fluid overload is one of the determinant causes of LVH. This covariate is not analyzed.

**Patients enrollment.**

1) Low number = higher probability of statistical errors.

2) Exclusion criteria. It is not reported if patients with left ventricular insufficiency are excluded from the study.
Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests.