Reviewer’s report

Title: Do higher dialysate calcium concentrations increase vascular stiffness in haemodialysis patients as measured by aortic pulse wave velocity?

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Reviewer: Mitra Mahdavi-Mazdeh

Reviewer’s report:

The authors measured pulse wave velocity, aortic augmentation index and central aortic pressure in 289 HD patients at 0 and six months dialyzing with different calcium concentrations of 1.0, 1.25, 1.35 and #1.5 mmol/l. They found statistically significant increase in pulse wave velocity over the six month period which I seriously argue that the reason cannot be defined as easy as it has been mentioned.

1- They paid valuable attention to the factors which may affect on PVW measurements such as systolic hypertension, age, sex and …

2- The number of patients on different dialysate calcium concentrations were not similar: 1.0 mmol/l (18.8%), 1.25 mmol/l (20.9%), 1.35 mmol/l (53%), 1.5 mmol/l (5.9%) and 1.75 mmol/l (1.4%) which makes generalization a little difficult. It should be commented in the manuscript

3- The sample size was higher than similar studies

2- MBD-CKD prescription was different:
Calcium containing phosphate binders (52.9%), sevelamer (15.6%), lanthanum carbonate (13.9%) and cinacalcet (7.6%): which needs more discussion

3- It has been mentioned that “more of the cohort dialysing with the lowest calcium dialysate concentration had higher serum phosphate and parathyroid levels, and were prescribed more oral calcium based phosphate binders and sevelamer hydrochloride, compared to those dialysing against the highest dialysate calcium concentrations”. It needs discussion as this item may cover the effect of low calcium dialysate.

However, they concluded cautiously which is appropriate in my opinion.

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 declare that I have no competing interests