Reviewer’s report

Title: Vitamin D status in chronic dialysis patients with depression: a prospective study

Version: 4
Date: 21 March 2014

Reviewer: Chadi Abdallah

Reviewer’s report:

Major issues:
1. Lack of control, blinding, and randomization.
2. Lack of standardized diagnostic measures and clinician-rated scales.
3. Significant differences between the study groups.
4. The manuscript is difficult to follow and understand.
5. Questionable and unclear statistical approaches.

Introduction:
6. The rationale behind this study and the relationship between vit D and depression are not clearly stated. Stronger justification for conducting this trial should be presented.
7. CRP was mentioned in the abstract but omitted from the Introduction. The authors should present the rationale for investigating CRP and the hypothesized relationship between inflammation, CKD, and depression.
8. Spell out abbreviation the first time they appear in the text; e.g. PTH, CKD, etc.

Methods
9. Justifications for the study criteria were not clear. How "severe" depression was determined? Were structured interview conducted to determine diagnoses and severity?
10. Were two-tailed analyses used?
11. Study sites and treatment (HD vs. PD) should be examined as covariate
12. What is the comorbidity index?

Results
13. Table 1 & 2 are duplications, Table 2 is sufficient.
14. Table 3 may be better presented as figure with 2 panels showing the change over time of the mean and error bars of each variable.
15. "Patients with depressive symptoms tended to have"; remove "tended to"
16. It is recommended to report the actual p values, rather than "p < 0.05"
17. This association was substantially attenuated after the confounding factors were controlled; the actual statistics should be presented. What were the effects of each covariate? Any of them had a significant effect on the outcome measure?

18. It is not clear what statistical tests were conducted to examine the effects of the Vit D treatment. A 2x2 ANOVA could be used to examine the effect of group and treatment.

19. Did the depressed group continue to have higher CRP and lower Vit D levels after a year of treatment? What was the correlation between these measures and depression scores?

Discussion

20. We provided a comprehensive and detailed description of the incidence of depression and the efficacy of calcitriol supplementation on depression in dialyzed patients; this statement is not justified. The study and the report have major limitations that preclude such a firm conclusion.

21. The high occurrence of depression may be partly due to anemia and poor nutritional status. Did the authors investigate the relationship between anemia/nutrition and depression?

22. In particular, the depressive state is not clear. Did the current study examine the effect of season on Vit D or depression scores?

23. Overall the Discussion is difficult to follow.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I declare that I have no competing interests