Reviewer's report

Title: Relationship between parathyroid glands and parathyroid hormone levels in hemodialysis patients with secondary hyperparathyroidism

Version: 1 Date: 8 November 2014

Reviewer: Bjorn Meijers

Reviewer's report:

Major Compulsory Revisions:
- If I’m correct, the authors correlated PTH levels with each resected parathyroid gland separately. In my opinion, it would be more logical to calculate, for each patient, total weight and volume of all resected glands and correlate these measurements with PTH levels.
- If I see the distribution of PTH (Figure 1C), I’m not sure that this is a normal distribution. Please use QQ test and Shapiro-Wilk test to more formally test the normality. If not, use non-parametric test statistics (Spearman instead of Pearson, …)
- There was no correlation between gland measurements and PTH levels below 1000. The authors state that this may be due to the use of 2nd HPT treatments. How many patients were on calcimimetics or phosphate binders, and were there indeed differences in drug therapy use between the different PTH subgroups? Could you give the number of patients in each PTH subgroup, maybe the authors did not observe a correlation in the lower PTH groups due to rather low number of patients?
- As there was a preoperative ultrasound evaluation of the parathyroid glands, was there also an estimation of volume, …. If so, what is the agreement between these measurements and those of the resected glands.
- In 90% of cases there was a histologic nodular transformation of the parathyroid glands. Were there differences in volume and weight between these cases and the other glands without nodular transformation.

Minor Essential Revisions:
- Could you give some more information about the indications of PTX in your centre?

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

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

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