Reviewer's report

Title: A randomized, double-blind, placebo-controlled trial of calcium acetate on serum phosphorus concentrations in patients with advanced non-dialysis-dependent chronic kidney disease

Version: 2 Date: 29 November 2010

Reviewer: Maurizio Gallieni

Reviewer's report:

This is a straightforward randomized placebo-controlled study assessing the effects of calcium acetate as P binder in CKD patients. It is the first study addressing the question with a correct methodology, although numerous previous non controlled studies arrived to similar conclusions as this article.

Calcium acetate allowed good P and PTH control, but it also induced an increase in calcium levels. In the results section, the Authors report: “At 12 weeks, the percentage of subjects who had hypocalcemia was 5.4% and 19.5% for the calcium acetate and the placebo groups respectively.” A similar sentence should also be introduced for hypercalcemia, reporting its prevalence at 12 weeks (13.5%, according to figure 3B). The latter information should also be included in the abstract. The number of episodes of hypercalcemia during the 12 weeks of study should also be reported in the two groups.

The calcium x phosphate product is an artificial index, which has been much criticized (W C O'Neill. The fallacy of the calcium-phosphorus product. Kidney International 2007; 72: 792-796). This reviewer suggests that information on the CaxP product do not add much to what is already clear by looking at Calcium and phosphate singularly. It can therefore be removed form the text. Figures 2c and 3c should also be removed.

In the discussion, it should be stated that although Ca and P levels might be normal, it is possible to observe a positive calcium balance when high doses of calcium based binders are used.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

Genzyme : Reimbursments for educationa activities (lectures). Genzyme is the producer of Renagel, a P binder. It is a competitor of Calcium Acetate