

**Report Research Grant:**

**Vitamin D supplementation and hyperphosphatemia control in children with CKD**

By use of this grant we perform *two* observational studies:

In the *first* study new strategies in hyperphosphatemia management are evaluated. Children with CKD usually take a fixed dose of phosphorus binder. The Phosphate Education Program (PEP) provides simple training tools to instruct patients/parents to eye-estimate meal phosphorus content based on phosphorus units concept and to self-adjust the number of phosphorus binders accordingly. A pilot study using PEP approach showed improved hyperphosphatemia control without reducing phosphorus intake in children.

We are currently finalizing the study protocol to get approval from Ethical committee. In addition, the information materials for the parents and patients are translated in various European languages.

In the *second* study we investigate the effects of vitamin D supplementation on bone/mineral metabolism and the immune system in pediatric CKD patients. So far, the effects of vitamin D substitution on CKD-MBD (beside PTH levels) and the immune system are unknown. We hypothesize that vitamin D supplementation has beneficial effects on surrogate markers of CKD-MBD and the immune system. All markers of mineral metabolism have been determined in our research lab (n=80, each 2 time points, 5 parameters). We are currently finalizing data analysis of our two pilot studies, i.e. case-control study (n=40) in collaboration with the ESCAPE/4C consortium, and randomized study of GOS (n=40, principal investigator R. Shroff).

Our data show that vitamin D supplementation increases FGF-23 and Klotho levels in children with CKD depending on the degree of renal insufficiency. A manuscript about these data is currently prepared. Justine Bacchetta will present our data at the symposium on CKD-MBD taking place on Saturday afternoon at the ESPN meeting in Brussels.

Dieter Haffner on behalf of the ESPN CKD-MBD working group