

Report on a Dialysis Unit in which All Vitamin D Dosing was Halted

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Reports on inaccuracy of intact PTH (iPTH) tests prompted us to re-evaluate whether all ESRD pts in our dialysis clinic need vitamin D analogs as a result of routine iPTH assays. It's been established that the iPTH assay measures active PTH plus a fragment of PTH (7-84 PTH) that is present in significant concentrations in dialysis patients. The routinely used iPTH assay (Nichols Advantage) is significantly upward shifted compared to the iPTH assay upon which K/DOQI guidelines are based (Nichol's IRMA iPTH). On average, Advantage iPTH reports values 50% higher than IRMA iPTH. Recently, (Sherrard, ASN 2003) reported on "the changing relationship between iPTH and bone histology in dialysis patients" and demonstrated the iPTH assay is not accurate in predicting bone turnover. It was concluded, "more frequent biopsies with histodynamic parameters may be needed to accurately diagnose and appropriately treat bone disease in renal patients to better understand the effects of current therapies, especially vit D sterols and calcium-containing phosphate binders, on the bone". It is impossible to routinely do bone biopsies on dialysis patients. Unlike iPTH assays, bone biopsy studies have shown 94% accuracy of the 1-84 PTH/7-84 PTH ratio in predicting bone turnover. Since vit D dosing has been and is determined by the Advantage PTH assay in our clinic, we decided to halt vitamin D administration and monitor 1-84/7-84 PTH levels monthly for 3 months while allowing washout of previously administered vit D analog. Of 21 patients who met our simple inclusion criterion for study (present for 3 quarterly iPTH assay before cessation of vit D analogs or monthly 1-84/7-84 PTH assay thereafter), 12 patients were found to be on protocol administration of Calcijex, Zemplar or Hectorol before halting vit D therapy. After the 3-month washout, based on criteria of iPTH >150 pg/ml and ratio of CAP/CIP >1.5, 6 patients were placed on a vit D analog, a 50% reduction in such therapy. Although our patients did not undergo bone biopsy, our experience emphasizes the need to consider recent findings on limitations of the Advantage iPTH assay and to re-assess whether all patients should receive vit D, based solely on results of this particular assay.