HIGH PREVALENCE OF LOW VITAMIN D IN HIV VERTICALLY INFECTED CHILDREN LIVING IN IRELAND

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Introduction: In addition to its key role in bone mineral metabolism, Vitamin D has important immunomodulatory and antiinfective properties. Development of clinical rickets in a 14 year old boy on HAART (FTC/TDF/EFV) prompted an audit of Vitamin D status in our HIV infected cohort.

Methods: Cross-sectional study of vertically HIV infected children attending the National Centre for Paediatric HIV in Ireland. 25 (OH) Vitamin D levels were defined as: deficient, ≤27.5nmol/L; low, >27.5-75nmol/L and normal, >75nmol/L. Parathyroid hormone (PTH) levels < 65ng/mL were considered normal.

Results: Data were available on 63 children (32 male). Ethnicity: African, 50; Caucasian, 10; and mixed African-Caucasian, 3. Forty-nine children were receiving HAART (TDF, 19; EFV, 19; and 8/19 both TDF and EFV). Median Vitamin D level was 43nmol/l (range, 7.8-101). Vitamin D levels were: deficient, 15 (24%); low, 42 (66.5%); and normal, 6 (9.5%). Median PTH level, 65ng/mL (range, 15.8 - 804). PTH levels were elevated in 9 (15%). Seven children (11%) were Vitamin D deficient with elevated PTH levels, 3 with associated hypocalcaemia and hypophosphatemia. Two received EFV; 1, TDF; and 3, TDF/EFV containing HAART. Urea, Creatinine, Urinary Calcium/Creatinine and Protein/Creatinine ratios were normal in 42 of 43 (98%) children. One child had pre-existing HIV nephropathy.

Conclusion: The majority (57/63, 90.5%) of our cohort of vertically HIV infected children have low Vitamin D. PTH levels were elevated in 15%. In the absence of demonstrable renal dysfunction, further study of additional mechanisms eg. inadequate intake, decreased absorption, drug-effect, insufficient sunlight, ethnicity is warranted.