

VITAMIN D DEFICIENCY IS PREDICTED BY AGE, GENDER AND CARDIAC FUNCTION IN DIALYSIS PATIENTS

Authors L.Trajceska, S.Gelev, P.Dz.Vidimliski, I.R.Busletik, Gj.Selim, A.Sikole

Hospital: University Clinic of Nephrology, Skopje, Macedonia

Objectives:

This study aimed to identifier risk factors for nutritional vitamin D deficiency in the dialysis population.

N=71	Mean ± St.Dev	Rang
Age (years)	61.56 ± 11.17	23 - 83
Vintage (months)	46.78 ± 40.73	4 - 240
Females (%)	33 (46%)	
Rena disease		
Hypertension	26 (37%)	
Diabetes	15 (21%)	
GN	6 (8%)	
Vascular access –Central Venous Cateter (%)	11 (15%)	

Methods:

We routinely measured clinical and demographic factors that could identify patients who are deficient in vitamin D in study cohort of 80 dialysis patients. Using logistic regression modelling, with vitamin D deficiency as the dependent variable, we generated predictive models

Graphs and tables

N=71	mean ± St.Dev	rang
Body Weight (Kg)	65.10 ± 13.53	34.5 - 102
Body Height (m)	1.61 ± 0.1	1.41 – 1.82
Hemoglobin (g/L)	116.82 ± 7.9	100 - 130
Albumin (g/L)	38.20 ± 4.10	30 - 49
Calcium (mmol/L)	2.16 ± 0.13	2 - 2.5
Phosphorous (mmol/L)	1.20 ± 0.27	0.60 – 1.68
CRP (mg/L)	6.19 ± 10.74	0.2 - 62
PTH (pg/ml)	184.80 ± 98.34	50 - 301

N=71	Mean ± St.Dev	rang
Ao (mm)	32.23 ± 4.01	22 - 38
LV (mm)	37.64 ± 5.42	24 -50
LVIDd (mm)	51.96 ± 7.36	35 - 70
LVIDs (mm)	33.72 ± 6.45	23 - 61
RV (mm)	27.55 ± 4.37	19 – 41
IVS (mm)	13.20 ± 1.36	10 - 19
PV (mm)	11.00 ± 1.61	8 - 15
EF (%)	63.54 ± 5.17	50 - 73
FS (%)	34.95 ± 4.01	25 - 43

Results:

Vitamin D deficiency was present in 88% of the study population. In the Univariate analysis the younger age, female gender, lower albumin level, higher CRP, and lower Heart Ejection Fraction, were strongly associated with lower levels of Vitamin D. The higher required Erythropoietin dose was significantly associated to lower Vitamin D levels.

In the final model as mightiest predictors of vitamin D deficiency remained female sex, gender and Cardiac function ($\beta=0.426$, $p=0.001$, $\beta=0.278$, $p=0.016$, $\beta=0.301$, $p=0.01$), respectively

Conclusions:

Clinical factors predict low Vitamin.D levels. Further study is needed to prove the benefit of the deficiency correction. The nutrition, inflammation, and CVD comorbidities should be of prior interest.

References:

- Holick MF. Vitamin D Deficiency. N Engl J Med 2007;357:266-81
- Peterlik M, Cross HS. Vitamin D and calcium deficits predispose for multiple chronic disease. Eur J Clin Invest 2005; 35:290-304.
- Dusso A, Lopez-Hilker S, Rapp N, Slatopolsky E. Extrarenal production of calcitriol in chronic renal failure. Kidney Int 1988;34:368-375

