

HIGHER LEVEL OF 25HYDROXYVITAMIN D PREDICTS LOWER PROTEINURIA IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction and aims

- Proteinuria (PU) is a well established factor influencing native kidneys' and renal transplant survival (1).
- There is a growing body of evidence that VD is associated with renal protection, suppression of the renin – angiotensin aldosterone system (RAAS) and other pleiotropic effects.
- High prevalence of suboptimal VD levels in kidney transplant recipients (KTRs) was detected (2).
- The aim of our study was to assess the influence of the level of 25-hydroxyvitamin D (25VD) on the PU in KTRs.

Materials and methods

- 395 KTRs were tested for 25VD on their regular visits in our transplant center from 1.05.2012 till 30.11.2012
- Routine blood sampling and PU measurement was performed on the day of the visit
- Laboratory, clinical and therapeutic factors for PU were taken into consideration.

Exclusion criteria

- Patients within 6 months of transplantation
- Performed parathyroidectomy
- Unstable kidney function
- Concomitant intake of calcineurin inhibitors (CNI) and mTOR inhibitors
- Advanced liver disease
- VD supplementation

Statistical analysis

- Descriptive statistics
- Univariate and multivariate loglinear regression
- SPSS version 11.5
- Level of significance adopted was $p < 0.05$.

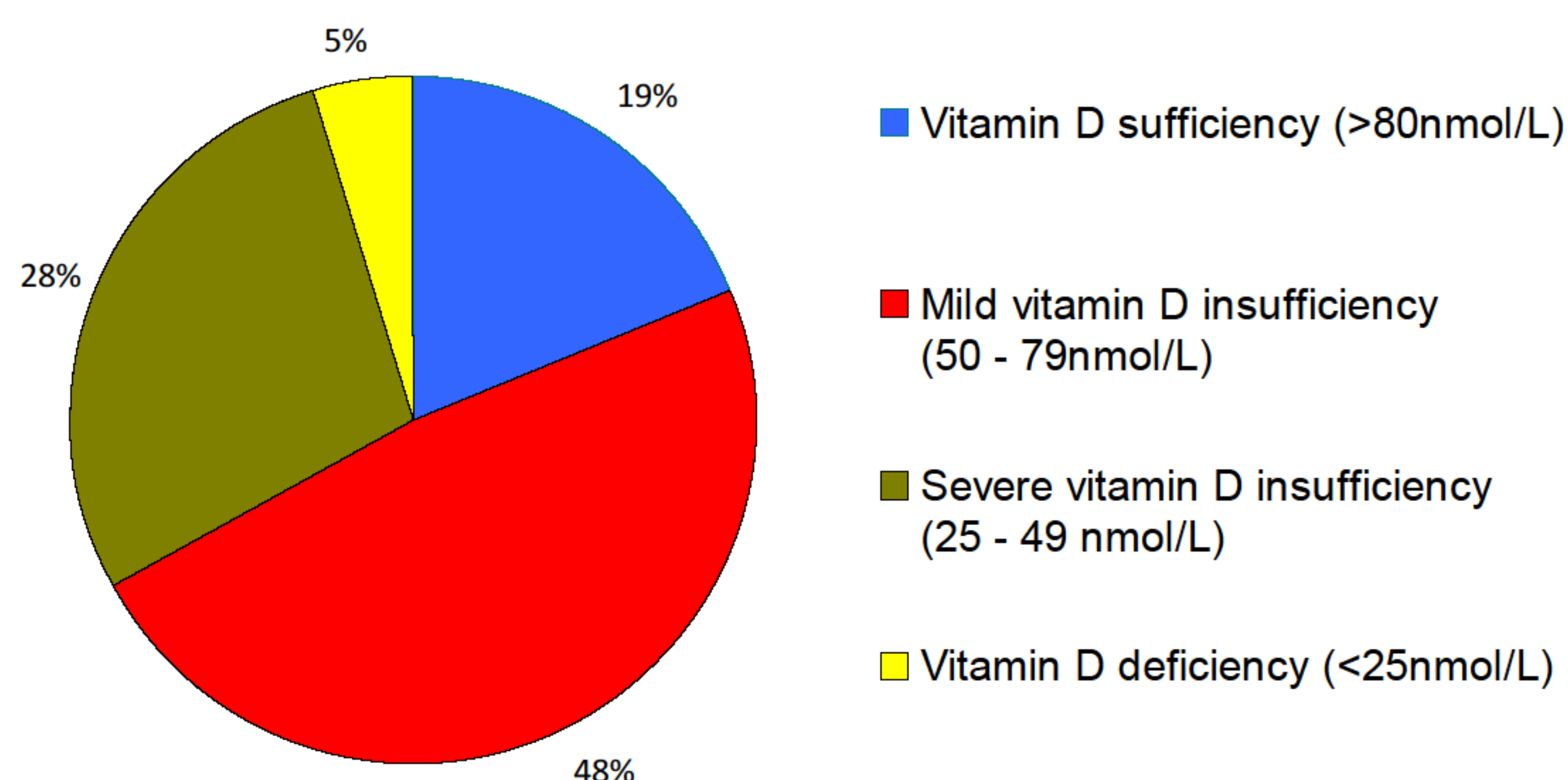
25VD determination

- Total 25VD (25VD₂+25VD₃)
- Validated LC-MS/MS method

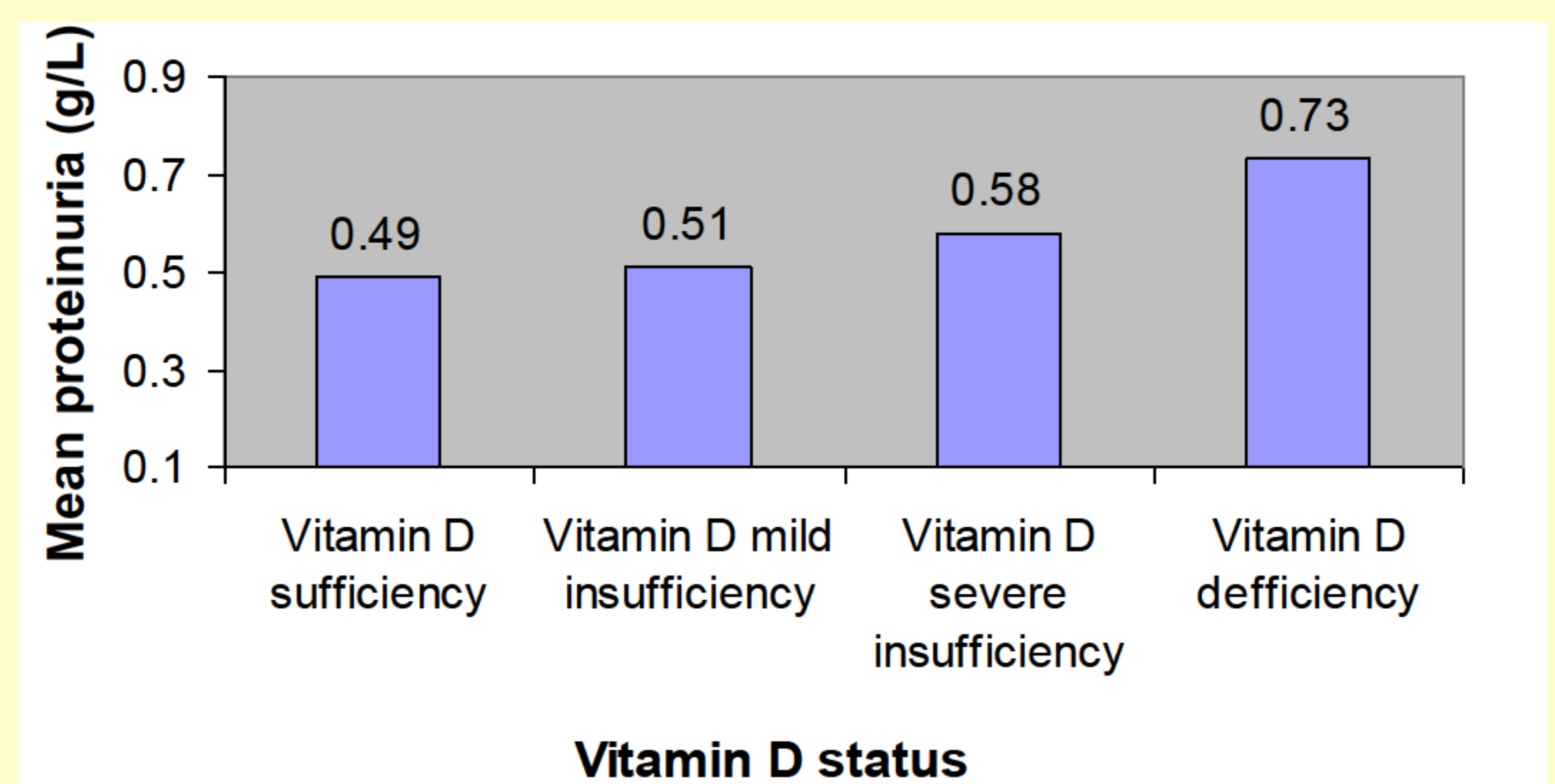
Results

- 289 patients met the selection criteria
- Males 189
- Females 100

25VD insufficiency prevalence, n=289



Proteinuria and VD status



Factors influencing proteinuria

	β	Std. Error	P value
Intercept	6.000	0.697	<0.001
Diabetes mellitus	0.463	0.177	0.009
Use of mTORI	0.502	0.169	0.003
Steroids intake	-0.357	0.133	0.008
In eGFR (CKD-EPI)	-0.942	0.124	<0.001
Rejection episodes	1.031	0.254	<0.001
Age of KTRs	-0.009	0.004	0.042
In 25VD level	-0.291	0.123	0.019

mTORI – mTOR inhibitors

eGFR – estimated glomerular filtration rate (CKD-EPI formula)

KTR – kidney transplant recipient

25VD – 25 – hydroxyvitamin D

Conclusion

- Higher levels of 25VD were associated with significantly lower PU, suggesting a beneficial effect on graft survival
- Adequate VD supplementation will not only improve VD status, but will also improve posttransplant outcomes

References

1. Knoll GA. Proteinuria in kidney transplant recipients: prevalence, prognosis, and evidence-based management. Am J Kidney Dis 2009 ;54(6):1131-44.
2. Querings K, Gimdt M, Geisel J, Georg T, Tilgen W, Reichrath J. 25-hydroxyvitamin D deficiency in renal transplant recipients. J Clin Endocrinol Metab. 2006;91(2):526-9.

