# Sclerostin and Survival Among Patients Undergoing Haemodialysis

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## OBJECTIVES

Sclerostin is a protein expressed by osteocytes and has recently been shown to be a good predictor for bone formation in patients with chronic kidney disease. Serum sclerostin levels are increased in patientswith end-stage renal disease and has recently been shown to be associated with aortic valve calcification in these patients. Besides, the effect of the level of sclerostin on survival is unknown.

## METHODS

We examined survival according to serum sclerostin levels in a prospective cohort of 350 (164 males, 186 females, mean age: 57±13 years, mean hemodialysis vintage: 58±32 months) patients who were on maintenance haemodialysis treatment.

## RESULTS

During follow-up of one year, 26 hemodialysis patients (7,42%) died. Patients who died were elder (67,8±9 vs 56,5±13 years, p=0.013),had lower 25-hydroxy vitamin D3 (19,6±9,1 vs 29,8±11 mcg/L, p=0.024) and higher sclerostin levels (2143±1327 vs 1469±1373 pg/ml, p=0.017). Patients with 25-hydroxy vitamin D3 levels greater than median value (21,6 mcg/L; Group 1) were associated with an increase in survival when compared to patients with 25-hydroxy vitamin D3 levels greater than median value and receiving calcitriol therapy (Group 2), patients with 25-hydroxy vitamin D3 levels lower than median value and receiving calcitriol (Group 3) and finally patients with 25-hydroxy vitamin D3 levels lower than median value and not receiving calcitriol therapy (Group 4) (Log-rank: p=0.004 for the trend, Figure 1). Increased serum sclerostin quartiles are associated with decreased patient survival (Log-rank:p=0.025; Figure 2). Serum sclerostin levels in the highest quartile (>2282 pg/ml) were associated with a 22% increase in the multivariable adjusted risk of death, as compared with the lowest quartile (<370 pg/ml; adjusted also for both calcitriol therapy and serum 25-hydroxy vitamin D3 levels).

Figure 1

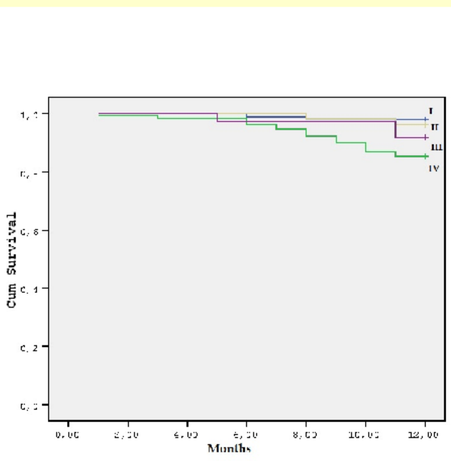
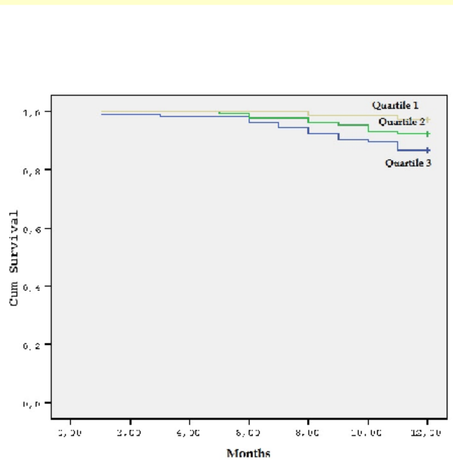



Figure 2




## CONCLUSIONS

Increased sclerostin levels seem to be independently associated with mortality among patients who are on maintenance haemodialysis treatment.

## REFERENCES:

1-Cejka D, Herberth J, Branscum AJ, Fardo DW, Monier-Faugere MC, Diarra D, Haas M, Malluche HH. Clin J Am Soc Nephrol. 2011 Apr;6(4):877-82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