

INCREASED PLASMA SCLEROSTIN CONCENTRATION IN HEMODIALYSIS PATIENTS WITH SECONDARY HYPERPARATHYROIDISM TREATED WITH CINACALCET

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BACKGROUND

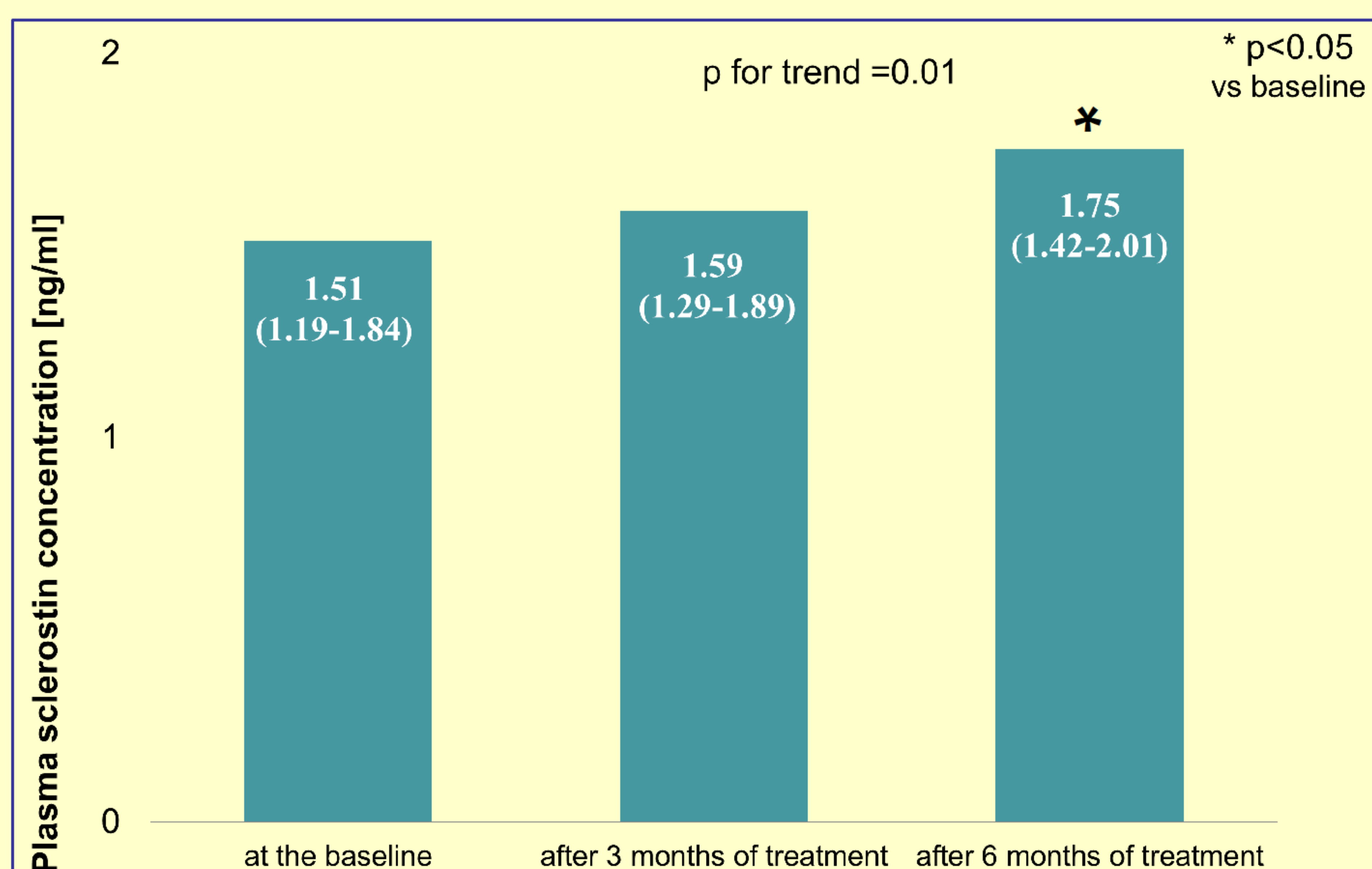
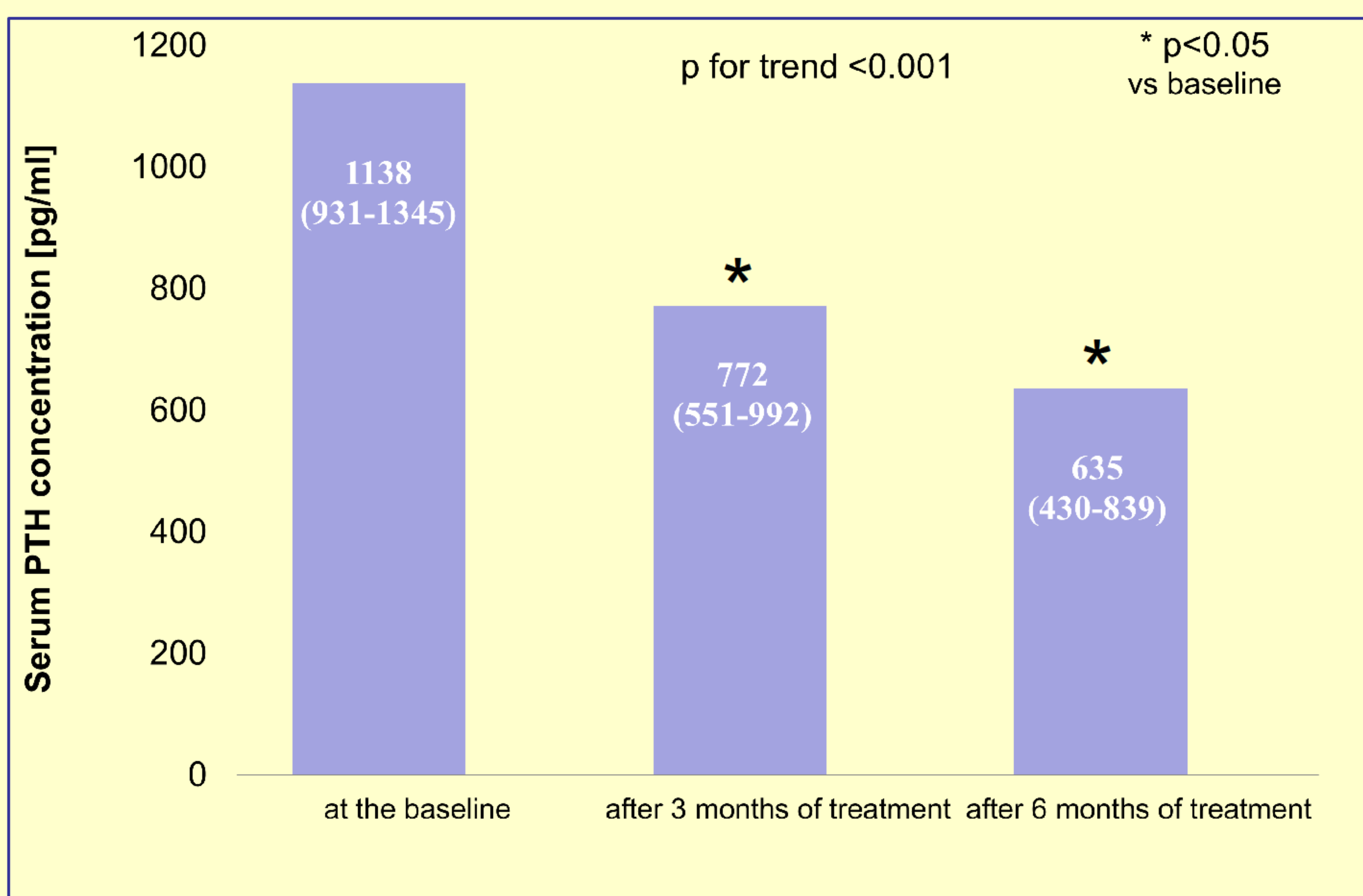
Sclerostin (Scl) is a paracrine acting hormone expressed in the osteocytes and articular chondrocytes. Results of the recent clinical studies suggest that Scl may reduce the osteoblast-related bone formation through the inhibition of the Wnt/ β -catenin pathway. Osteocytes also express the Calcium Receptor (CaR) which is a target for cinacalcet. The aim of this prospective, single-arm, open-label clinical study was to assess the influence of six-month cinacalcet treatment on plasma Scl concentration in hemodialysed patients with secondary hyperparathyroidism (sHPT).

METHODS

In 58 hemodialysed patients with sHPT (PTH>300 pg/ml) plasma Scl (ELISA, Teco Medical, U.S.A.) and serum PTH, calcium and phosphate concentrations were assessed before the first dose of cinacalcet and after 3 and 6 months of treatment.

RESULTS

Serum PTH concentration decreased significantly after 3 and 6 month of treatment from 1138 (931-1345) pg/ml, to 772 (551-992) pg/ml and to 635 (430-839) pg/ml respectively; p for trend <0.0001. Mean serum calcium and phosphate concentrations remained stable during the treatment period. Plasma Scl concentration increased after 3 and 6 months of treatment from 1.66 (1.35-1.96) ng/ml, to 1.77 (1.43-2.12) ng/ml and to 1.87 (1.50-2.25) ng/ml, respectively; p for trend = 0.01. In 42 patients with serum PTH concentration decrease during the cinacalcet treatment plasma Scl concentration increased after 3 and 6 months of treatment from 1.51 (1.19-1.84) ng/ml to 1.59 (1.29-1.89) ng/ml and to 1.75 (1.42-2.01) ng/ml, respectively; p for trend = 0.01. Contrary, in the 16 patients without decrease of serum PTH, plasma Scl concentration at the baseline and after 3 and 6 months of treatment was stable: 2.09 (1.32-2.85) ng/ml and 2.33 (1.27-3.40) ng/ml and 2.30 (1.16-3.45) ng/ml, respectively; p for trend =0.34. A negative correlation was found between plasma sclerostin and serum PTH concentrations at the baseline and after 6 months of treatment.



CONCLUSIONS

1. In hemodialysed patients with secondary hyperparathyroidism treatment with cinacalcet increases plasma sclerostin concentration 2. Such an increase seems to be related to the decrease of serum PTH concentration.

