

Serum total and free testosterone concentration in male hemodialysed patients with chronic kidney disease and secondary hyperparathyroidism treated with cinacalcet

Marcin Adamczak, Piotr Kuczera, Andrzej Wiecek

Department of Nephrology, Transplantation and Internal Medicine
Medical University of Silesia, Katowice, Poland

BACKGROUND

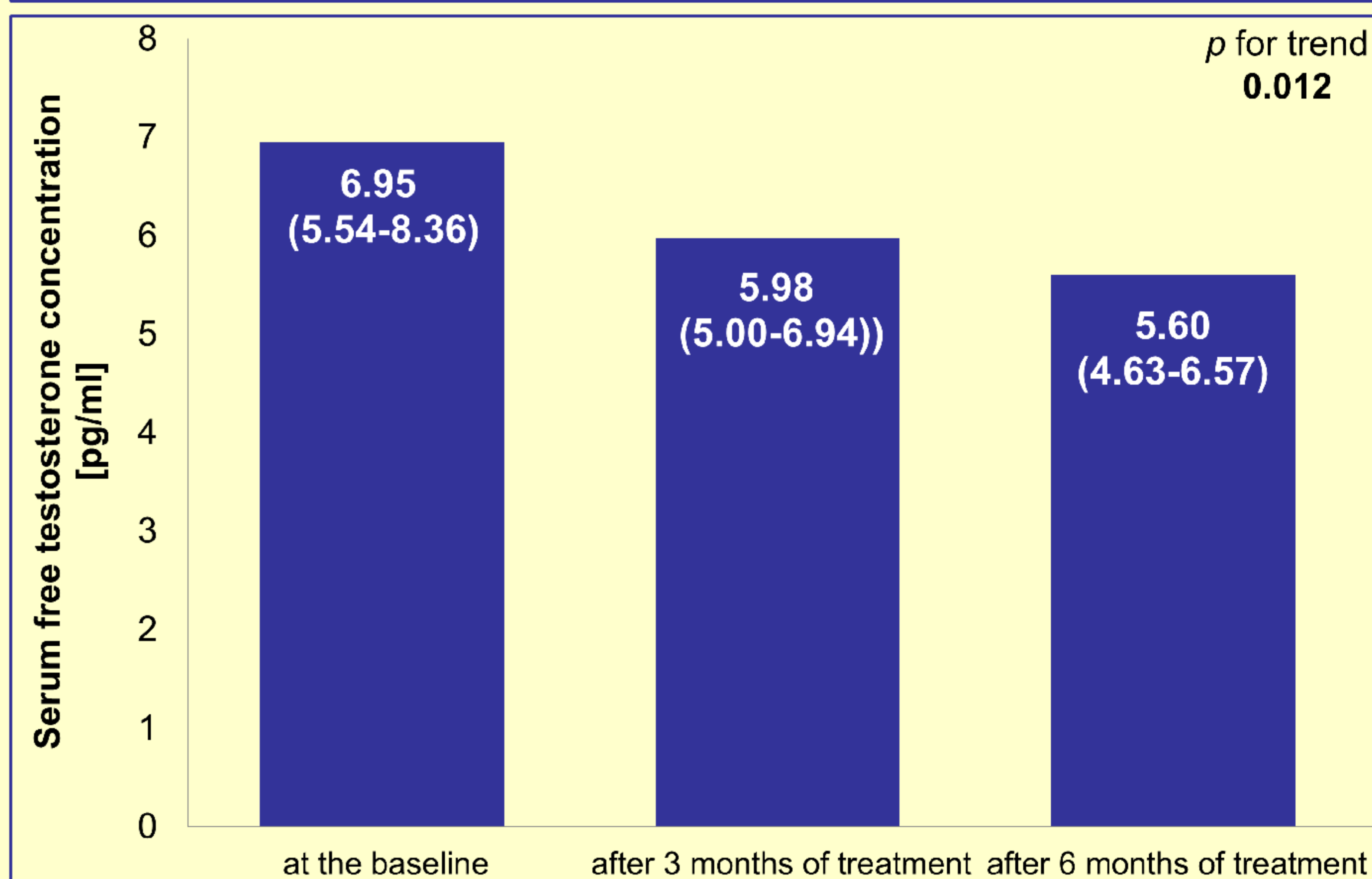
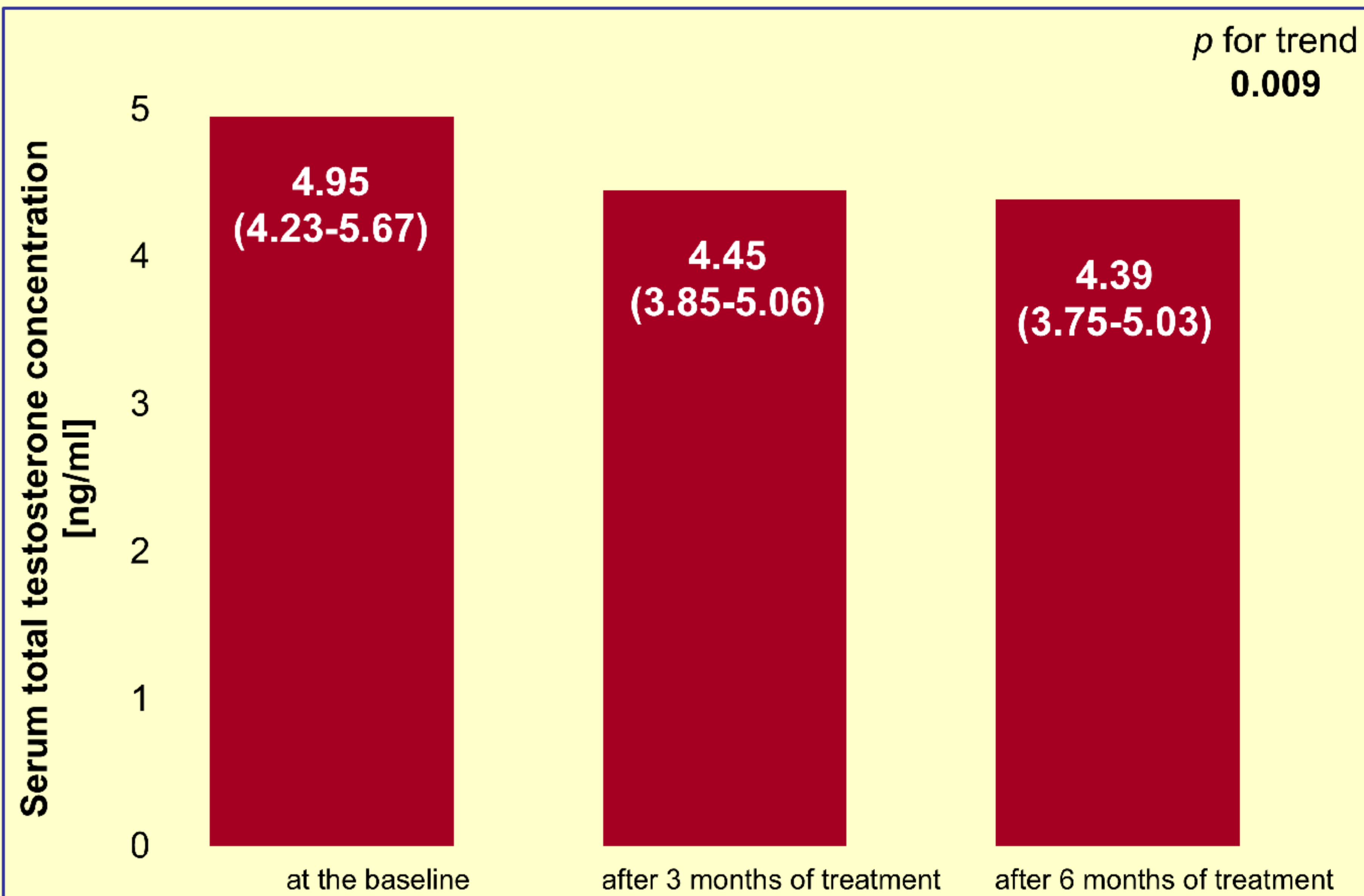
Calcium receptor (CaR) is expressed, among others in testis. Cinacalcet binds to the CaR, increases sensitivity of CaR to serum calcium and therefore is used in the treatment of secondary hyperparathyroidism (sHPT) in hemodialysed patients with chronic kidney disease (HDP). In most male HDP, serum testosterone concentrations are lower than in healthy males. The aim of this study was to assess the influence of six-month treatment with cinacalcet on serum total and free testosterone concentration in male HDP with sHPT.

METHODS

In 38 male HDP, with sHPT (PTH>300 pg/ml), serum PTH, total testosterone (TT), free testosterone (FT) were assessed before the first dose of cinacalcet and after 3 and 6 months of treatment. Results are presented as means with 95% CI

RESULTS

In patients who completed the study cinacalcet treatment caused significant decrease of serum PTH from 1143 (828-1458) pg/ml at the baseline, to 809 pg/ml (487-1132) pg/ml after 3 month of treatment ($p=0.002$), and to 607 pg/ml (281-934pg/ml; $p<0.0001$) after 6 months of treatment. Serum TT concentration decreased from 4.95 (4.23-5.67) ng/ml to 4.45 (3.85-5.06) ng/ml; $p=0.17$ and to 4.39 (3.75-5.03) ng/ml; $p=0.028$, respectively (p for trend=0.009). Moreover, serum FT concentration decreased from 6.95 (5.54-8.36) pg/ml to 5.98 (5.00-6.94) pg/ml; $p=0.14$ and to 5.60 (4.63-6.57) pg/ml; $p=0.034$, $p=0.028$, respectively (p for trend=0.012). In the multiple regression analyses the change (Δ) of serum TT after 3 months of treatment was explained by the change of the serum PTH concentration. The Δ of serum TT after 6 months of treatment was explained by the dose of cinacalcet



CONCLUSION

In male hemodialysed patients with chronic kidney disease and secondary hyperparathyroidism treatment with cinacalcet decreases serum total and free testosterone concentration.

