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Introduction and Aims. After successful renal transplantation abnormal bone and mineral metabolism continues to present in most patients. The aim of the study was to determine the prevalence and severity of mineral and bone metabolism in patients with chronic kidney disease (CKD) undergoing renal transplant.

Methods. The prospective study included 77 patients (32 men, 45 women, mean age 44) with CKD who underwent transplantation of cadaveric kidneys from 2011 to 2015. Inclusion criteria were:

1. duration of the post-transplant period at the time of inclusion in the study for at least 11-12 months and not more than 60 months;
2. Stable function kidney transplant within 12 months prior to entry into the study.

Exclusion criteria were:

1. carried over parathyroidectomy in pre- or post-transplant period;
2. therapy with vitamin D or cinacalcet at the time of enrollment.

Glomerular filtration rate (GFR – is calculated according to the formula CKD-EPI) more 60 ml/min had 39 (first group), 30-59 ml/min – 29 (second group) and 15-29 ml/min – 9 (third group) recipients. Serum concentrations of electrolytes, the total activity of alkaline phosphatase (ALP), albumin, nitrogen metabolism parameters were determined by standard methods, blood concentrations of parathyroid hormone (PTH) and vitamin D (25-OH vitamin D) – by ARSHITECT-system.

Results. Hypercalcemia, hypophosphatemia, hypomagnesemia, and a high level of PTH (more 130 pg/ml), respectively diagnosed in 15.6%, 16.9%, 16.9% and 55.8% patients. There was the high significant difference between blood PTH in patients with normal renal function and reduced graft (respectively median in groups are 110, 161 and 371 pg/ml). The blood level of vitamin D in the ranged from 6 to 30 ng/mL (median 14), only one patient was a recommended range (≥ 30 ng/ml). There was the invert correlation of blood PTH with GFR ($r=-0.543$, $p<0.001$) and serum magnesium ($r=-0.241$, $p=0.04$), directly correlation with daily proteinuria ($r=0.414$, $p<0.001$), blood level PTH before transplantation ($r=0,483$, $p=0,007$) and blood activity total ALP ($r=0.28$, $p=0.015$). The blood PTH is not associated with serum calcium and phosphorus. There was the invert correlation between serum phosphorus and GFR ($r=-0.232$, $p=0.04$), between ALP and GFR ($r =-0.267$, $p=0.02$) and between serum magnesium and GFR ($r=-0.23$, $p=0.05$).

Conclusion. By common manifestations of mineral and bone disorders in renal transplant recipients are posttransplant HPT, development/progression is associated with hypomagnesemia, deterioration of kidney function, as well as deficiency of vitamin D.

