**Introduction and Aims:** Mineral metabolism disorders are present in many kidney transplant recipients. The aim of the study was to evaluate phosphate metabolism disturbances in kidney recipients with good graft function.

**Methods:** In 230 kidney transplant recipients (M 135, F 95), the following parameters were estimated 1–327 months posttransplant: serum Pi, total and ionized Ca, total and bone alkaline phosphatase, iPTH, crosslaps, 25(OH)D3, cyclosporine A/tacrolimus everolimus trough levels, and 24 hour urine phosphate and calcium. Tubular maximum reabsorption of phosphate per litre of GFR (TmP/GFR) and the ratio of renal calcium clearance to renal creatinine clearance were derived. Graft function was stable, measured creatinine clearance >50 mL/min.

**Results:** Results are shown as median with interquartile range: Pi 0.9 (0.80–1.08), reference range 0.79–1.42 mmol/L, TmP 0.675 (0.54–0.81), reference range M 0.90–1.35, F 0.88–1.42 mmol/L, iPTH 9.95 (6.5–13.9), reference range 1.0–6.0 pmol/L. Serum Pi was below the reference range in 49/230 patients and TmP in 187/230. Serum Pi levels correlated significantly negatively with total and ionized Ca, iPTH, total alkaline phosphatase, crosslaps, trough levels, but positively with creatinine clearance and cyclosporine trough levels. TmP/GFR correlated significantly negatively with total and ionized Ca, iPTH and total alkaline phosphatase. iPTH correlated also significantly positively with dialysis vintage, total and ionized Ca, Creactinine clearance ratios, total and bone alkaline phosphatase, crosslaps, cyclosporine trough levels, and negatively with posttransplant period duration and 25(OH)D3. Serum Pi and TmP/GFR were lower in patients in whom the measurements were performed <12 months posttransplant than in those in whom the parameters were measured ≥12 months posttransplant. Serum Pi and TmP/GFR were significantly lower in men than in women. In premenopausal women Pi and TmP/GFR were significantly lower than in postmenopausal ones. In multiple regression analysis iPTH, crosslaps, and ionized Ca influenced serum Pi levels significantly, and in patients on cyclosporine Pi was also affected by Creactinine clearance ratios, creatinine clearance and cyclosporine trough levels. iPTH, serum crosslaps and ionized calcium significantly affected TmP/GFR.

**Conclusions:** Hypophosphatemia occurs in about 20% of kidney transplant recipients with good and stable graft function, but low tubular phosphate reabsorption is present in the vast majority of them. Serum phosphate levels and tubular phosphate reabsorption are related to PTH and sex. Cyclosporine nad tacrolimus might influence phosphatemia inversely. Further investigations are needed.