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Impact of Parathyroidectomy on Allograft Outcomes in Kidney Transplantation

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Background: Parathyroidectomy (PTX) is recommended for tertiary hyperparathyroidism after kidney transplantation. However, renal function deterioration has been reported.

Methods: We performed retrospective, multi-center study of the impacts of PTX after or before kidney transplantation on allograft outcomes.

Results: A total of 63 kidney transplant patients that underwent PTX after transplantation were identified. Deterioration in eGFR by more than 25% at 1 month after PTX occurred in 20% of the patients (impairment group). The baseline eGFR was significantly lower in the impairment group than the non-impairment group (adjusted odds ratio [OR] 0.86, 95% confidence interval [CI] 0.75–0.98, $p=0.028$). Low iPTH concentration after PTX was also a significant risk factor for the renal impairment (OR 0.96, CI 0.93–0.99, $p=0.006$).

A total of 37 dialysis patients who underwent PTX before transplantation were identified. Thirty-six percent of the patients had persistent hyperparathyroidism by 1 year after transplantation. A high iPTH level before PTX was a significant risk factor for persistent post-transplant hyperparathyroidism (adjusted OR 1.002, CI 1.000–1.005, $p=0.039$). Finally, eGFR values during the first 5 years after transplantation were significantly lower in the patients who underwent PTX at less than 1 year after transplantation, than in the pre-transplant PTX patients ($p=0.043$). However, there was no difference in the eGFRs between the patients that underwent PTX 1 year after transplantation and the pre-transplant PTX patients ($p=0.330$).

Conclusion: Because PTX after kidney transplantation has a risk of deterioration of allograft function, pre-transplant PTX should be considered for patients with severe hyperparathyroidism, who could undergo post-transplant PTX.

Key Words: 부갑상선기능항진증, 신장이식, 부갑상선절제술
 Hyperparathyroidism, Kidney transplantation, Parathyroidectomy