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P230 -Role of cinacalcet in post-transplant hyperparathyroidism

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Secondary or tertiary hyperparathyroidism seen in CKD patients usually resolves after renal transplantation, as a more normal GFR is restored. However, persistent hyperparathyroidism is reported to occur in approximately 15 to 50 percent of patients following transplantation. This is because of the persistence of structural changes in the parathyroid, such as hyperplasia and adenoma formation, despite removal of the initial stimuli for hyperparathyroidism.

Because of the normal or near-normal GFR among transplant recipients, the clinical manifestations of persistent hyperparathyroidism in the transplant recipient differ from those associated with hyperparathyroidism in nontransplant CKD patients. In the transplant recipient, the clinical manifestations resemble primary hyperparathyroidism and are characterized by hypercalcemia and hypophosphatemia. By contrast, nontransplant CKD patients with hyperparathyroidism typically have hyperphosphatemia and hypocalcemia.

Factors additional to hyperparathyroidism contribute to hypercalcemia and hypophosphatemia in transplant recipients. Increased calcitriol production and resorption of soft-tissue calcium phosphate deposition can cause hypercalcemia.

Hypophosphatemia after transplantation is caused by both persistent hyperparathyroidism and excess FGF-23 production. FGF-23 is secreted by bone osteocytes and osteoblasts in response to calcitriol, increased dietary phosphate load, parathyroid hormone (PTH), and calcium. Patients with CKD have increased FGF-23 concentrations due to decreased phosphate clearance. Markedly elevated FGF-23 levels before renal transplantation may persist after transplant, but more commonly FGF-23 concentrations decline rapidly following transplantation.

We included 5 patients in this case series with post-transplant hyperparathyroidism to whom we gave cinacalcet and assessed their calcium, phosphate and parathyroid levels after one month. There was biochemical improvement in our patients with only 3 showing lowering of their serum calcium levels and 2 patients didn't have significant effect on their serum calcium levels. Phosphate levels remained the same before and after one month of cinacalcet. But there was a significant reduction in the serum PTH levels in all patients.

Even though this was a small case series but what we can gather from this is that cinacalcet can be used in patients with mild post-transplant hyperparathyroidism as a second option rather than going for a parathyroidectomy as surgery comes with its risk and is at times not successful in treating hyperparathyroidism or the patient is unfit for surgery.