

ROLE OF PARATHYROIDECTOMY IN ACHIEVING THERAPEUTIC TARGETS IN DIALYSIS PATIENTS WITH SECONDARY HYPERPARATHYROIDISM

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INTRODUCTION AND AIMS: Parathyroidectomy(PTX) is recommended to manage secondary hyperparathyroidism in dialysis patients who fail medical therapy. Our aim was to prospectively evaluate the clinical and biochemical outcomes, serum fibroblast growth factor-23 (FGF-23) and inflammatory factors in patients who underwent PTX. **METHODS:** 127 patients with SHPT who underwent PTX from April 2009 to March 2016 at our institution. The serum samples were collected before and after 1 day, 1 month, 3 months and 6 months of the operation. Serum calcium, serum phosphorus, alkaline phosphatase (ALP), intact parathyroid hormone (iPTH), FGF-23, and hsCRP were measured at different time points. At the same time, compared with the remission of observation clinical symptoms of skin itching and bone pain.

RESULTS: 127 patients underwent PTX for secondary hyperparathyroidism. There were 59 women and 68 men with a median age of 56 years(range 29-70 years). Of these patients, 97 had four parathyroid glands removed, 27 had three removed, 3 had two removed. Histopathology showed 105 cases had hyperplastic changes, 22 had parathyroid adenomas. No patients experienced recurrent laryngeal nerve injury. Recurrent hyperparathyroidism led to re-operation in 2 patients. When comparing pre and post-operative biochemistry, iPTH levels were found to be significantly decreased(2496.39 ± 698.53 VS 86.97 ± 40.68 , $P < 0.05$). Corrected calcium levels were also significantly reduced(2.63 ± 0.32 vs 2.09 ± 0.24 , $P < 0.05$). Serum phosphorus levels were significantly reduced(2.51 ± 0.31 vs 1.48 ± 0.17 , $P < 0.05$). ALP decreased significantly (515.61 ± 432 vs 285.43 ± 132.23 , $P < 0.05$). Serum FGF-23 was significantly decreased(985.32 ± 210.36 vs 184.54 ± 99.76 , $P < 0.05$), and hsCRP decreased significantly(20.31 ± 8.56 vs 2.16 ± 1.08 , $P < 0.05$). The symptoms of skin itching and bone were disappeared and insomnia was improved rapidly.

CONCLUSIONS: The majority of patients had a total PTX with hyperplasia being the prevailing pathology. PTX has been shown in these patients to significantly correct the disorder of calcium and phosphorus metabolism, reduce the level of iPTH and FGF-23, ameliorate inflammatory factor levels and alleviate the clinical manifestations. FGF-23 is an independent risk factor for progression of left ventricular hypertrophy, the development of cardiovascular events and mortality. Micro-inflammation is closely related to the nutritional status and the incidence of vascular disease. PTX is an effective way to improving the quality of patients with Chronic kidney disease.

