

Outcomes of renal hyperparathyroidism following parathyroidectomy in kidney replacement therapy patients at Tygerberg Hospital: A retrospective cohort study

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Abstract

Background: Renal hyperparathyroidism is a common complication in patients with advanced chronic kidney disease. Management includes medical therapy or surgical intervention in refractory cases by means of subtotal parathyroidectomy (SPTX) and total parathyroidectomy with or without auto-transplantation. There is a paucity of data from low-to-middle income countries on outcomes following parathyroidectomy in patients with receiving kidney replacement therapy (KRT).

Aim: The aim of this study is to determine the outcomes of parathyroidectomy in patients with renal hyperparathyroidism.

Methods: We conducted a retrospective cohort study using data from the clinical records at the Division of Nephrology at Tygerberg Hospital, Cape Town, South Africa, over a 7-year period from 1 July 2016 to 31 June 2023. The sample included all adult patients receiving KRT who were diagnosed with renal hyperparathyroidism and required parathyroidectomy.

Results: Forty-seven patients underwent parathyroidectomy. Two thirds were female with a mean age of 40.7 ± 8.50 years. The median duration from dialysis initiation to surgery was 65 (IQR 38–96) months. Pre-operative serum calcium and intact parathyroid hormone concentrations were 2.41 ± 0.27 mmol/L and 196.6 ± 106.67 pmol/L, respectively. Most patients (80%) underwent SPTX. One out of 5 patients with histologically confirmed parathyroid hyperplasia had indeterminate or non-functioning results on the Tc-99m sestamibi scan. The most common post-operative complication was hungry bone syndrome (HBS) occurring in two thirds (66%) of patients. The lowest post-operative calcium concentration was 1.63 ± 0.28 mmol/L, occurring on day 4 or more. Recurrence of renal hyperparathyroidism occurred exclusively in patients who underwent SPTX (15%). The median time to recurrence was 7 (IQR 6.5–9.5) months.

Conclusion: In our study we found HBS to be the most common postoperative complication of parathyroidectomy and recurrence of hyperparathyroidism occurred exclusively with SPTX.