

**00016      Hypercalcemia and Its Risk Factors Among Elderly Pre-dialysis Patients With Mineral and Bone Disorder**

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**Aims:** To examine the prevalence of hypercalcemia and its risk factors among elderly pre-dialysis chronic kidney disease (CKD) patients with mineral and bone disorder (MBD)

**Methodology:** A retrospective, cohort study was conducted in Singapore General Hospital from 1st June 2016 to 31st May 2017, with a follow-up period of 1 year. It involved all CKD stage 4 and 5 pre-dialysis patients aged  $\geq 65$  years old who were on treatment for MBD. Mild, moderate and severe hypercalcemias were defined as corrected calcium of 2.47 - 3.00 mmol/L, 3.01 - 3.50 mmol/L and  $\geq 3.51$  mmol/L respectively. Patients who were on dialysis, post renal transplant, post-parathyroidectomy or had no calcium level taken during the study period were excluded. Patients' demographic data and clinical information related to hypercalcemia episodes were collected. Multivariate logistic regression analysis was performed to evaluate patients' risk factors for hypercalcemia.

**Result:** Of the 399 eligible patients, 54 (13.5%) patients developed hypercalcemia during the study period. Among the 90 episodes of hypercalcemia documented, 87 (96.7%) and 3 (3.3%) were of mild and moderate severity. There was no patient with severe hypercalcemia. The elemental calcium intake from phosphate binders did not differ between patients with and without hypercalcemia ( $p=0.44$ ). After adjusting for covariates, history of hypercalcemia in past 1 year [Odds ratio (OR) =12.91, 95% CI: 5.30-31.50] and lower baseline intact parathyroid hormone level (OR: 0.97, 95% CI: 0.94-0.99) were associated with higher risk of hypercalcemia in pre-dialysis patients.

**Conclusion:** Hypercalcemia is a prevalent complication in pre-dialysis elderly patients with mineral and bone disorder. Physicians should undertake care in utilizing calcium-based phosphate binders or vitamin D analogues in patients with history of hypercalcemia. More studies should be undertaken to evaluate other risk factors associated with hypercalcemia in these patients.